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ABSTRACT

Volume III of a three-volume report on the availability of primary scientific and technical documents within the U.S. contains the bibliography and 28 appendixes that provide supportive material for the study. Volume I (LI 002 454) contains a summary of the objectives and results of the study, and Volume II (LI 002 455) presents the detailed methodology and findings of the study. (AB)

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A REVIEW OF THE AVAILABILITY OF PRIMARY SCIENTIFIC AND TECHNICAL DOCUMENTS WITHIN THE UNITED STATES

VOLUME III

James L. Wood
Chemical Abstracts Service
The Ohio State University
Columbus, Ohio 43210

October, 1969

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FOREWORD

This is Volume III of a three-volume report on the availability of primary scientific and technical documents within the United States. The results and the recommendations are reviewed in Volume I. Volume II provides the detailed methodology and findings of the study. This volume contains the bibliography and the appendixes that provide supportive materials for the study.

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SURVEY OF LOCAL DOCUMENT RESOURCES IN THREE METROPOLITAN AREAS*

The surveys regularly conducted by the Chemical Abstracts Service to gather data for the library source guide feature of the List of Periodicals Abstracted by Chemical Abstracts reveal that most library collections are deficient not only in the rarer journals but also in many of the more popular journals in which new chemical and chemical engineering information is reported.

In collecting data for the latest published List (1961), CAS surveyed 334 libraries, asking them to report their holdings for 9,734 titles abstracted in CA. The combined resources of all 334 cooperating libraries contained only 9,078 or 93.3% of these titles. That is, 656 (6.7%) were not in the collections of any of the 334 surveyed libraries. An analysis of the number of titles received by each of the U.S. and foreign libraries indicates that no single library had more than 5,300 of the 9,734 titles covered by the 1961 List. Table I shows that only 11 (4.1%) of the U.S. and 2 (4.4%) of the foreign libraries had between 2,500 and 5,300 of the 1961 List titles, while at the other extreme, 179 (66.5%) of the U.S. and 32 (71.1%) of the foreign libraries had fewer than 1,000 of the titles.

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* Material reported here is based on 1961 CAS survey of cooperating libraries current receipts of abstracted titles. The 1961 information represents the latest published List.

Table I

NUMBER OF LIBRARIES BY SIZE OF COLLECTION

Number of Titles Held	Number of Libraries	
	United States	Foreign
0-99	17	4
100-199	31	3
200-299	25	4
300-399	20	4
400-499	9	3
500-599	22	3
600-699	11	2
700-799	16	3
800-899	10	3
900-999	18	3
1000-1499	49	6
1500-1999	19	5
2000-2499	11	0
2500-2999	2	1
3000-3499	4	0
3500-3999	3	0
4000-5300	2	1
Totals	269	45

Survey of Three Metropolitan Areas

To obtain more specific information on local library resources, CAS studied the data on library holdings in three representative metropolitan areas: New York, San Francisco, and Detroit. These areas present a fairly wide range of population, geographical location, and library holdings, thus data on these areas should be indicative of local document resources in other U.S. metropolitan areas.

The total number of libraries surveyed in these three metropolitan areas in 1961 was 28; 16 in metropolitan New York, 5 in metropolitan Detroit, and 7 in metropolitan San Francisco. These libraries included all types of libraries, as shown in Table II, although all types were not represented for each area. In selecting these libraries, CAS attempted in each instance to select organizations with both the document resources and the service facilities required to serve chemists and chemical engineers.

Table II

NUMBER OF LIBRARIES BY TYPE OF ORGANIZATION

Area	College and Univ.	Company	Govt. Agency	Public Library Depts.	Other Organi-zations	TOTAL
New York	8	3	1	1	3	16
San Francisco	3	0	1	2	1	7
Detroit	3	2	0	0	0	5

The total holdings of titles in the three metropolitan areas is given in Table III, where the "percent" columns are based on the 9,734 titles covered.

Table III

TOTAL HOLDINGS AMONG SURVEYED LIBRARIES

Area	Titles Held		Titles Lacking	
	Number	Percent	Number	Percent
New York	5,450	56.0	4,284	44.0
San Francisco	5,051	51.9	4,683	48.1
Detroit	3,343	34.3	6,391	65.7

Although 5450 (56%) of the 9734 listed titles are included in the combined holdings of the 16 cooperating libraries in metropolitan New York, this does not mean that each of the 5450 titles is equally available. As shown in Table IV, 2187, or 40%, of the titles are available at only one of the 16 libraries, while at the other extreme, one title was found in the collections of 15 of the 16 cooperating libraries. Table IV also presents similar data for metropolitan San Francisco and metropolitan Detroit.

Table IV

DISTRIBUTION OF TITLES AMONG THE SURVEYED LIBRARIES

A. Metropolitan New York

5450 titles were held collectively by 16 libraries.

0	titles were held individually by	16	different libraries.
1	"	15	"
6	"	14	"
9	"	13	"
22	"	12	"
24	"	11	"
34	"	10	"
55	"	9	"
53	"	8	"
115	"	7	"
139	"	6	"
257	"	5	"
421	"	4	"
834	"	3	"
1293	"	2	"
2187	"	1	"

B. Metropolitan San Francisco

5051 titles were held collectively by 7 libraries.

6	titles were held individually by	7	different libraries.
45	"	6	"
92	"	5	"
152	"	4	"
524	"	3	"
1332	"	2	"
2900	"	1	"

Table IV (Contd.)

C. Metropolitan Detroit

3343 titles were held collectively by 5 libraries.

17	titles were held individually by	5	different libraries.
114	"	4	"
384	"	3	"
954	"	2	"
1874	"	1	"

Comparison of CAS-Surveyed Libraries with Other Community Libraries

Since the CAS survey covered relatively few of the total number of libraries dealing in scientific and technical literature, CAS compared the surveyed libraries to other scientific and technical libraries with respect to their journals subscriptions. (Table V.) The comparison data are from the Gale survey of special libraries and information centers (see footnote on Table V). For all five types of libraries in all three areas, the average number of subscriptions is substantially higher for libraries surveyed by CAS than for the average library. This indicates that a user has a better chance of finding a desired title at one of the CAS-surveyed libraries than at the average scientific and technical library in the thre metropolitan areas. Note however, that these comparison data do not revea the holdings of the other libraries in any area; therefore, titles not available from the CAS-surveyed libraries may be available from one of the non-surveyed libraries.

Table V

AVERAGE SUBSCRIPTIONS PER LIBRARY

Area	College and Univ.	Company	Govt. Agency	Public Library	Other	TOTAL
New York						
CAS Survey	763	221	961	3,465	1,047	895
Gale Survey*	350	216	399	436	164	235
San Francisco						
CAS Survey	2,396	-	774	207	388	1,252
Gale Survey*	744	279	215	268	334	492
Detroit						
CAS Survey	1,421	809	-	-	-	1,176
Gale Survey*	421	184	81	286	124	233

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*"Special Libraries and Information Centers", Kruzas, A.T. Gale Research Company, Detroit, (1965)

Table VI

LIBRARIES INCLUDED IN THE CAS SURVEY

Name of Library	No. of Titles Reported Held	No. of Titles in Top 250 Journals Held
A. New York		
Academy of Medicine of Brooklyn Library	959	69
Boyce Thompson Institute for Plant Research, Inc. Library	521	78
Brookhaven National Laboratory, Research Library	961	151
Chemists Club Library	397	102
Columbia University Libraries	1,514	144
Columbia University Medical Library	1,196	111
Consolidated Edison Company, Inc. Library	101	7
Engineering Societies Library	1,242	61
Ford, Bacon and Davis, Inc. Library	42	1
Fordham University Library	503	94
New York Academy of Medicine Library	1,502	99
New York Public Library	3,465	179
New York University Libraries, General University Library	469	104
Polytechnic Institute of Brooklyn Library	589	107
Pratt Institute Library	175	27
Rockefeller University Library	698	125

Table VI (Contd.)

Name of Library	No. of Titles Reported Held	No. of Titles in Top 250 Journals Held
B. San Francisco		
University of California General Library	4,195	225
California State Library	774	45
Mechanics' Institute Library	195	29
San Francisco Public Library	219	22
Stanford Research Institute Library	388	93
Stanford University, Lane Medical Library	1,046	62
Stanford University, Stanford University Libraries	1,949	138
C. Detroit		
General Motors Corporation Research Laboratories Library	511	68
Kresge-Hooker Science Library	1,107	152
University of Michigan, General Library	3,217	182
Parke, Davis and Company, Research Library	322	80
Wayne State University College of Medicine Library	726	60

Conclusion

Although the data upon which the CAS survey was based is five years old and it can be assumed that the holdings of these libraries have improved since 1961, it must also be remembered that the number of titles pertinent to chemistry and chemical engineering has also increased as has the volume of the documents for all subject areas for which these libraries are responsible. Therefore, we believe that the conclusions to be drawn from these data are still valid--the total local document resources of the cooperating libraries in these three sample areas do not cover the full range of chemistry and chemical engineering. In fact, a user or group of users interested in that full range would expect to find one-third to one-half of the necessary documents through his local library resources.

Addendum

Table VI identifies all of the libraries surveyed in each metropolitan area and presents data on each library's holdings. The first column of data gives each library's subscriptions to titles included in the 9,734 titles of the survey. However, since there is not a direct correlation between the number of journals received and service to the user, the table also includes each library's receipt of the "most productive" 250 journals as determined by the number of abstracts from each journal published in CA. These most productive journals contribute 50% of the total number of abstracted papers.

CHEMICAL ABSTRACTS SERVICE

ACCESS - KEY TO THE SOURCE LITERATURE OF THE CHEMICAL SCIENCES

James L. Wood

April 15, 1969

ACCESS - KEY TO THE SOURCE LITERATURE OF THE CHEMICAL SCIENCES*

James L. Wood

The very large volume of literature that is pertinent to chemistry and chemical engineering is scattered throughout the literature of science and technology. To gain effective access to this literature, the user of chemical and chemical-engineering information has come to depend upon two types of services --the abstracting and indexing services to make him aware of pertinent literature, and the libraries to supply him with the documents he needs.

No single library has been or can be expected to maintain current subscriptions and back files for *all* of the services, patents, technical reports, dissertations, books, and so on, needed to satisfy fully the document requirements of users of chemical and chemical-engineering literature. According to Kruzas,[1] only 35 of 1,480 college and university libraries reported subscribing to more than 2,000 periodicals when he collected data for the *Directory of Special Libraries and Information Centers*[2] between August, 1961, and February, 1963. During this same period, over 8,000 periodicals were being monitored for coverage by the Chemical Abstracts Service. As a result, most libraries depend upon other libraries to supply documents through interlibrary lending, and thus there is a great need for bibliographic tools that provide library holdings data But, just as the literature of chemistry and chemical engineering itself is scattered, so are the bibliographic and document source location data scattered

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throughout a myriad of bibliographies, union lists, and catalogs. Moreover, these lists and catalogs are most often organized geographically and only rarely by discipline. An exception has been the quinquennial List of Periodicals Abstracted by Chemical Abstracts, which has since 1922 included data identifying libraries that received the listed periodicals. Data for these lists have been contributed generously by a wide range of academic, public, private, government, and industry libraries, and publication of the lists has been undertaken by the Chemical Abstracts Service (CAS).

As a culmination of these past lists, CAS and the library community are now developing ACCESS: Key to the Source Literature of the Chemical Sciences which will be a computer-based file of data on the source material of these two disciplines. The list will not be limited to material that has been abstracted in Chemical Abstracts (CA) but will include nineteenth- and twentieth-century journals published before CA began. Some four hundred libraries are contributing data to the list, the publication of which is again being coordinated by Chemical Abstracts Service. ACCESS will become an important bibliographic tool not only for the users and suppliers of chemical and chemical-engineering information but also for science and technology as a whole.

The first List of Periodicals Abstracted by Chemical Abstracts was published in 1908. This edition and the four revisions that succeeded it contained entries for the periodicals abstracted by Chemical Abstracts at the time of publication of the lists. The purposes of these early editions were: (1) to assist the user of CA to learn the complete titles of periodicals, which were cited in CA only in abbreviated form; and (2) to furnish the names and addresses of the publishers of the abstracted periodicals.

Beginning with the 1922 edition, the List of Periodicals was greatly extended with data designating selected libraries in the United States that currently received the abstracted periodicals. These data were generously contributed by 172 libraries. Subsequent quinquennial editions of the List reflected the growth in the number of periodicals covered and the increased number of cooperating libraries. For the 1961 edition of the List, a total of 334 U. S. and foreign libraries furnished library source-guide data.

To understand what these lists represent, consider the following dimensions of the chemical and chemical-engineering literature. Estimates of the total population of the world's current scientific and technical serials range from 26,000[3] to 35,000[4] to 50,000.[5] Depending upon the figure selected as a base, ACCESS' approximately 10,000 entries for current serials pertinent to chemistry and chemical engineering represent between 20 percent and 38.5 percent of the full range of the current scientific and technical serials.

In addition to the current serials being published, there is a similar number of defunct serials and some 4,500 volumes of papers presented at scientific and technical meetings or other edited compilations that contain chemical and chemical-engineering literature. The total number of new serials and monographs containing such information has been increasing steadily at a rate of some 500 to 600 per year. These serials and monographs are published in more than 100 countries, and over 50 languages are presented.

The number of serials containing chemical information has increased from some 8,000 in 1956 to over 10,000 in 1968, and, from all indications, this number will continue to increase at a similar rate in the future. Figure 1 shows the growth of the chemical and chemical-engineering literature since 1907 based on the number of titles in the various editions of the List of Periodicals.

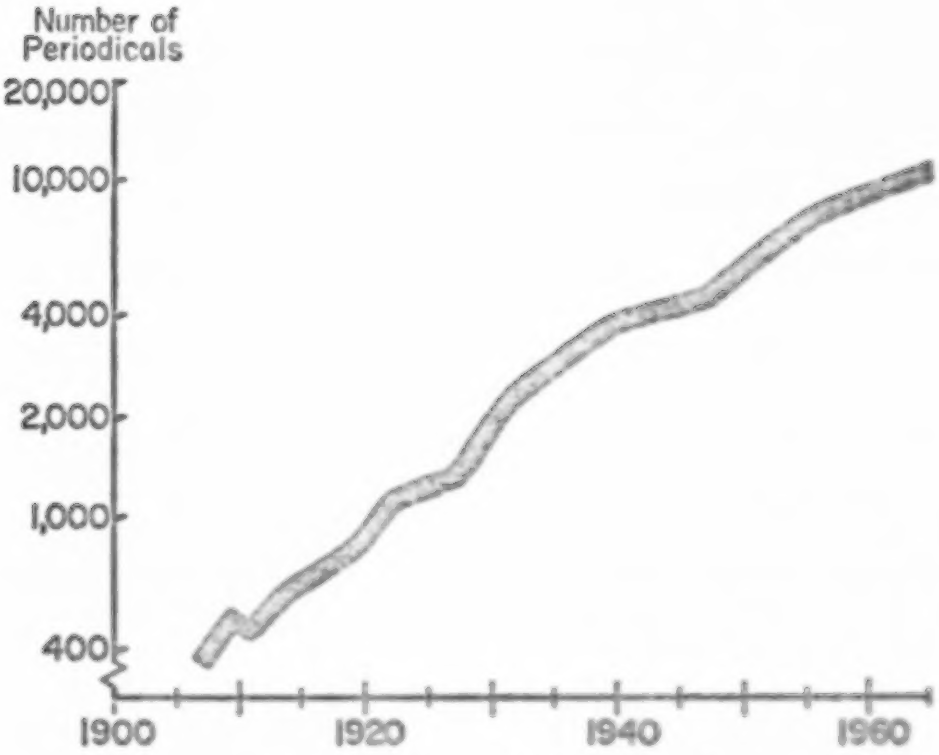

Figure 1. Growth of the world's chemical publications.

The relative contributions of various journals--that is, the "scattering" of chemical and chemical-engineering papers throughout the literature--is revealed in data from a computer-based inventory of the original sources of articles abstracted in CA. This scattering is shown by the graph in Figure 2. Accumulated data for the past four years show that 25 percent of the abstracted

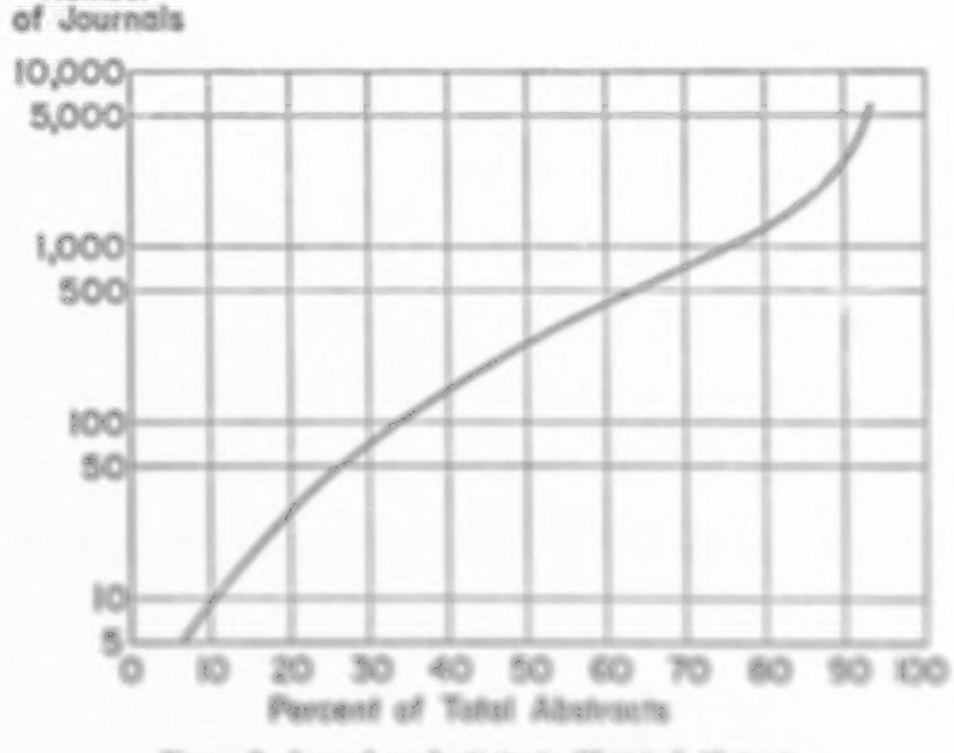

Figure 2. Journal productivity in Chemical Abstracts.

papers were published in only 50 journals, 50 percent of the total were from 250 journals, 75 percent were from 850 journals, while 90 percent came from slightly over 2,000 journals. The remaining 10 percent of the abstracts came from an additional 2,500 journals. However, in order to locate this final 10 percent, CAS must monitor an additional 7,500 journals each year. Even though the majority of the papers abstracted by CAS are to be found regularly in fewer than 300 journals, CAS has found papers suitable for abstracting in over 12,000 journals and 4,500 monographs during the past five years.

Although ACCESS has been designed to serve as a document locator and a source of bibliographic data primarily for the chemical sciences literature, it also will prove to be a valuable new source of information for those working in other scientific and technical disciplines.

The CAS Library currently has a contract with the U. S. Office of Education to analyze the ACCESS data base in order to review the availability of scientific and technical primary source documents within the United States.

One phase of this contract work is directed at determining whether or not ACCESS and the results of our study will be applicable to scientific and technical disciplines other than chemistry and chemical engineering.

Table I lists major abstracting and indexing services for agriculture, biology, nuclear science, medicine, engineering, metallurgy, general science, physics and electrical engineering and mathematics. Each service publishes a list of the serials it monitors. By checking these nine different serial lists against ACCESS, CAS has been able to determine how many of the serials monitored by these services will appear in ACCESS. For example, Nuclear Science Abstracts covers 2,785 serials and 2,292 or 82.2 percent of these are to be found in ACCESS. Therefore, ACCESS shall have significant value for identifying and locating

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serials cited in Nuclear Science Abstracts. This is true in varying degrees for the other services too.

TABLE I

COMPARISON OF ACCESS CONTENT TO LISTS OF SERIALS COVERED BY MAJOR SCIENTIFIC AND TECHNICAL ABSTRACTING AND INDEXING SERVICES

Title of Secondary Publication	Total Serials Listed as Covered	Entries in ACCESS	
		Number	Percent
Bibliography of Agriculture	9,087	2,648	29.1
Biological Abstracts	7,003	3,405	48.6
Nuclear Science Abstracts	2,785	2,292	82.2
Index Medicus	2,250	1,615	71.8
Engineering Index	2,029	1,084	53.4
Review of Metal Literature	1,774	642	36.2
Pandex	1,938	1,455	75.1
Science Abstracts	1,236	760	61.5
Mathematical Reviews	1,048	472	45.0

These data underscore the increasing necessity of a bibliographic tool such as ACCESS designed to assist the users and suppliers of chemical and other scientific and engineering literature to locate the documents they need. ACCESS will build upon the experience of previous Lists of Periodicals but will offer several new features. ACCESS will include for the first time: (1) entries for periodicals not abstracted by CA; (2) a sixty-year cumulation of information on titles that have been abstracted; (3) expanded bibliographic aids and library-holdings data. In addition, the list will, for the first time, be computer-based.

Previous editions of the List have included entries to all serials and conference proceedings volumes covered by Chemical Abstracts, and have thus included almost all of the titles pertinent to chemistry and chemical engineering since

1907. Nevertheless, in planning for ACCESS, CAS considered the inclusion of data for serial publications related to chemistry and chemical engineering that had not been abstracted by Chemical Abstracts, primarily those issued early in CA's history or before CA began publication. A survey of Beilstein's Handbuch der organischen Chemie revealed some 300 pre-1907 titles not covered by CA. The coverage of the literature of pure and theoretical chemistry from 1830 through 1940 by Chemisches Zentralblatt (CZ) was particularly outstanding, and CAS added approximately 500 journals covered by CZ prior to 1940 which had not been covered by CA. The information from both these sources will be included in ACCESS. An additional list of approximately 100 excellent but now defunct nineteenth-century chemical journals was included.

All told, ACCESS will include approximately 15,000 entries for journals, 4,500 entries for monographs, including titles covered by Chemical Abstracts, Chemisches Zentralblatt, and Beilstein, as well as some nineteenth-century chemical journals that were never covered by any of these services. ACCESS also will include over 8,000 cross-references from variant forms of a title to that selected as the main entry for ACCESS. Approximately 1,000 additional cross-references will be added to refer from variant title word abbreviations to the USASI standard forms.

The first edition of ACCESS is expected to contain over 2,000,000 library file location entries. These data have been supplied by 331 United States Libraries and 73 libraries in 28 other countries. Over 50 percent of the participating libraries have agreed to routinely forward additional holdings data to CAS for inclusion in the program to keep the ACCESS data base up to date.

An analysis by type and location of the participating libraries is shown in Table II.

TABLE II

ACCESS PARTICIPATING LIBRARIES BY TYPE AND LOCATION

Type of Library	Number of Libraries		
	U.S.	Foreign	Total
Academic	202	42	244
Government	18	17	35
Industrial	40	3	43
Public	46	1	47
Other	25	10	35
TOTALS	331	73	404

The second new feature of ACCESS will be its collection of data from the fourteen previous editions of the List of Periodicals. None of these editions has been fully cumulative; that is, previously published information about discontinued periodicals, monographs, and title changes was not always carried forward from edition to edition. As a result, all fourteen editions must be searched to obtain complete data on journals abstracted in CA. In contrast, ACCESS will reflect the sixty-year history of all previous editions of the List of Periodicals, thus bringing together between one set of covers pertinent bibliographic data and document source information for the substantive literature of chemistry and chemical engineering.

ACCESS will include much more data than did previous editions of the List of Periodicals. The new list will bring into a single source much valuable bibliographic data in considerable detail that is now only partially available from a large number of bibliographies, union lists, and individual library files.

The following data elements will be included in the entries in ACCESS: (a) the full title of the publication; (b) the title abbreviated according to United States of America Standards Institute (USASI) Standard Z39.5;[6] (c) the American

Society for Testing and Materials (ASTM) Coden[7] for the publication; (d) a translation of the title into English if the language is other than English, French, German or Spanish; (e) the languages of publication and summaries; (f) the history of the periodical with references to any former titles; (g) current frequency and volume number data; (h) the price; (i) the publisher's address; (j) the title cataloged according to ALA cataloging rules;[8] and (k) a key to the holdings of some four hundred cooperating libraries for each title.

ACCESS will contain in addition to bibliographic data on serials, monographs, and patents with library holdings, a number of useful indexes. One index will give the names and addresses of the participating libraries, with codes indicating their loan and photocopy services. Addresses of leading academic and commercial publishers, sales agents, and patent offices, will be included in another. An especially useful index feature will correlate the Z39.5 USASI title abbreviation with the form of entry for the serials cataloged according to ALA cataloging rules.

Perhaps the most significant feature of ACCESS--one that will add immeasurably to the improvements noted above--will be its computer base. By utilizing the computer as a storage, search and retrieval device, CAS has built into the ACCESS system a much greater degree of flexibility than exists in any of the union lists today. Whereas previous editions of the List of Periodicals have been manual files converted through conventional typesetting methods to a printed volume, ACESS will be produced from a computer file of data through the CAS photocomposition system, which offers a full range of type styles and quality comparable to conventional typesetting.

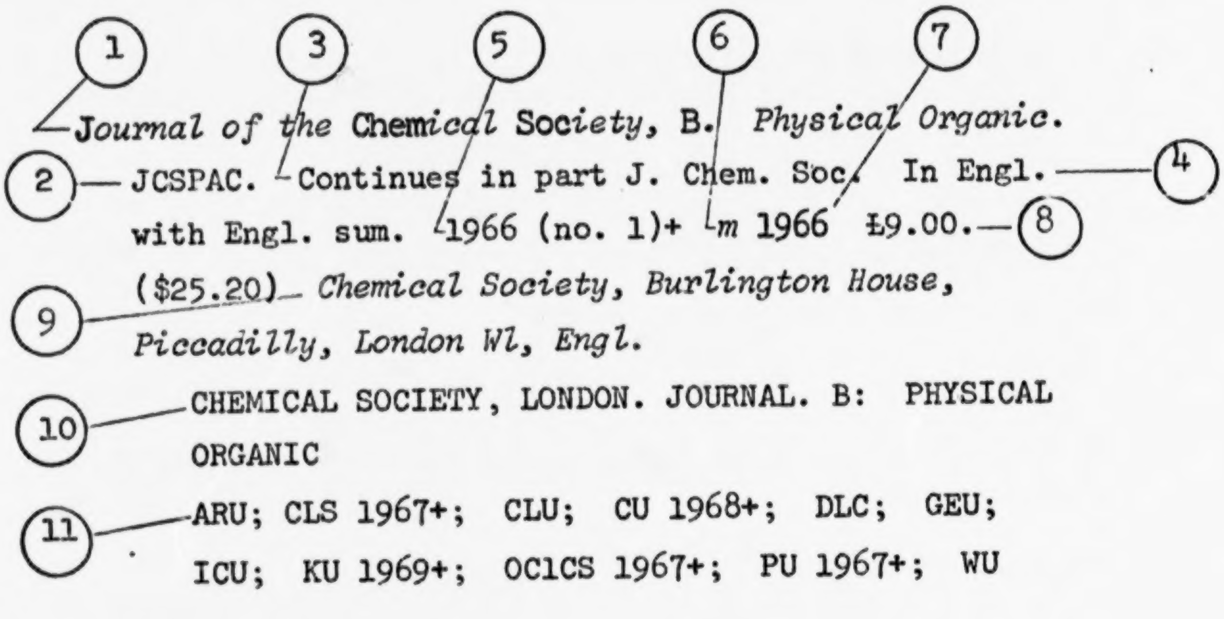
This shift to a computer base has several important implications. File maintenance will be simplified. It will be much easier to update the file so that less work will be required to prepare the data for an updated edition or a supplement. In the past, after each List of Periodicals was printed, the type was melted down and lost. Revised editions have required complete reentry and reverification of all the data regardless of whether any of the data had remained unchanged. By switching to a computer base, it will be possible to reissue a revised edition of ACCESS at any time without complete reentry of data. Maintenance of the computer-based system requires only the replacement of data which changed and the input of new entries. The computer-based system is, therefore, much simpler to keep up to date than a manual system. Such a system spreads the maintenance load evenly over the full period of operation. In contrast, the old system involved periodic reentry of the entire file and, consequently, caused high peaks in workload and monetary expenditure on the part of both the participating libraries and CAS.

Another powerful advantage the computer system will offer is the capability to search the file either to answer specific questions or to produce specialized listings of data. Since each of the bibliographic elements in each entry can be identified by the computer, users can select or repress any combination of elements to produce a wide variety of listings. For instance, one might list the journals in the ACCESS file that are held by a given library or a group of libraries within a region, or, conversely, construct lists of journals not held in specific areas. One could also list journals by language, by country of publication, by frequency of publication, or by type of journal. Similarly, the computer-based ACCESS is designed so that it can be expanded. For example, users could expand the ACCESS data base to include additional bibliographic data elements, entries for new or not previously listed journals and additional library holdings data. Thus, ACCESS tapes can be the basis of automated serials files for individual libraries.

It is evident that ACCESS will serve librarians in many more ways than merely identifying which libraries hold which journals.

As a final point, it should be emphasized that the computer-basis of the List will in no way affect the printed version. The primary output of the computer system will be a printed version of ACCESS to be distributed in the same way as previous editions of the List of Periodicals have been. Use of this printed version will not require any user to have access to a computer. However, for those who do have access to a computer and do wish to make use of the computer version, the computer file will be made available on a subscription or fee basis. The system is being developed for IBM 360 computers.

A typical entry in ACCESS will appear as shown in Figure 3. The important features of each entry are noted by the circled numbers and identified in the figure legend.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Journal of the **Chem***ical* **Soc***iety*, **B.** *Physical Organic.*
JCSPAC. Continues in part J. Chem. Soc. In Engl. with Engl. sum. 1966 (no. 1)+ *m* 1966 £9.00. ($25.20) *Chemical Society, Burlington House, Piccadilly, London W1, Engl.*
CHEMICAL SOCIETY, LONDON. JOURNAL. B: PHYSICAL ORGANIC
ARU; CLS 1967+; CLU; CU 1968+; DLC; GEU; ICU; KU 1969+; OClCS 1967+; PU 1967+; WU

Legend:

1. Full title with abbreviation in bold face.
2. ASTM Coden with check character.
3. Former title.
4. Languages of publication and summaries.
5. History of publication.
6. Frequency of publication.
7. Current volume number and year.
8. Price.
9. Publisher's address.
10. Title cataloged according to ALA cataloging rules.
11. Library holdings data.

Figure 3. Typical entry for ACCESS

Not all entries will contain all of this data. In general, ACCESS will distinguish three kinds of publication: (1) current serials, (2) monographs, and (3) defunct serials. The data elements to be included for each type of entry are indicated in Tables III, IV, and V.

TABLE III

DATA ELEMENTS TO BE INCLUDED IN CURRENT TITLE ENTRIES

a. Complete title and subtitle in original language of publication. Original titles in non-Roman alphabets will be transliterated into the Roman alphabet.

b. Title abbreviation according to the American Standards Association, USASI Z-39.5 (1963) "American Standard for Periodical Title Abbreviations."

c. Five-character Coden plus a machine-calculated check digit.

d. English translation of complete title if title is in a language other than English, French, German, or Spanish.

e. Reference to former title if there was one.

f. Languages of publication.

g. Languages of summaries of papers.

h. Volume number, issue number, date of first issue published.

i. Frequency of issue publication and number of volumes per year.

j. Current volume number and year.

k. Price.

l. Identification of publisher.

m. Title listed according to ALA cataloging rules.

n. Library Holdings.

TABLE IV

DATA ELEMENTS TO BE INCLUDED IN ENTRIES FOR MONOGRAPHS (CONGRESS AND SYMPOSIA PROCEEDINGS VOLUMES)

a. Complete title and subtitle in original language of publications. Original titles in non-Roman alphabets will be transliterated into the Roman alphabet.

b. Title abbreviation according to the American Standards Association USASI Z-39.5 (1963) "American Standard for Periodical Title Abbreviations."

c. Five-character Coden plus a machine-calculated check digit.

d. English translation of complete title if title is in a language other than English, French, German, or Spanish.

e. Frequency for meetings of established frequency.

f. Which meeting it is if one of a series.

g. Place where meeting was held.

h. Date of meeting (month, day, and year).

i. Number of volumes.

k. Editor's name.

l. Price if volume is in print.

m. Identification of publisher.

n. Library Holdings.

TABLE V

DATA ELEMENTS TO BE INCLUDED IN ENTRIES FOR DEFUNCT SERIALS

a. Complete title and subtitle in original language of publication. Original titles in non-Roman alphabets will be transliterated to the Roman alphabet.

b. Title abbreviation according to the American Standards Association USASI Z-39.5 (1963) "American Standard for Periodical Title Abbreviations."

c. Five-character Coden plus a machine-calculated check digit.

Table V (Contd.)

d. English translation of complete title if title is in a language other than English, French, German, or Spanish.

e. Reference to former title if there was one.

f. Languages of publication.

g. Languages of summaries of papers.

h. Volume numbers, issue numbers, dates of first and last issues published.

i. Title listed according to ALA cataloging rules.

j. Reference to successor if entry is for a former title.

k. Library holdings.

CAS plans to keep both the bibliographic and selected parts of the library holdings in the ACCESS data base up to date. ACCESS supplements in either machine-readable or printed form are to be issued on a quarterly basis. These supplements will include the full range of file input generated by the CAS Library, where currently over one thousand serial and conference proceedings volume titles are being added annually to the file as well as the publication location data routinely being contributed by the libraries participating in the ACCESS file maintenance program.

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APPENDIX 3

A STANDARDIZED DATA STORAGE FORMAT

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ABSTRACT

The standardized storage format designed for the IBM System/360 at Chemical Abstracts Service (CAS) is described. Discussed in detail are the logical definition, including the logically connected fields of each data element, and the physical implementation of the format utilizing OS/360 Data Management. Operational problems presented include those related to access to data and data storage space. The advantages set forth far outweigh the disadvantages. More generalization within the entire installation allows for the integration of the data files across several application areas and facilitates movements of data elements within the information system files at CAS.

INTRODUCTION

The numerous additions, deletions, and movements of data elements effected within the information system files of Chemical Abstracts Service (CAS) necessitate a file design that will enforce consistency within the system. In addition, a large percentage of data elements recur repeatedly in several application areas and information services. In order to establish an integrated system for information services, a standard format for information storage must be utilized.

Plans for conversion to an installation-wide standardized format were begun during the redesign of systems for System/360 in the fall of 1966 [1]. It was noted at that time that the binding time of dependent data was often delayed from program-coding time to execution time, while data file and data record structures were still being bound at coding time. In addition, much redundant effort was being expended in read/write routines and utility programs.

The logical design for the new format was influenced by two important characteristics of the items in the CAS files: frequency of occurrence and variability of length. (See the table below and also Figure I.) Since the CAS data files accommodate a large variety of different data elements, only a small percentage of the data elements occur for every item on file.

The standardized storage format (called SFF or Standard File Format at CAS) was designed so that the format is independent of the storage medium (e.g., tape, drum, disk). Each data element is assumed to be variable in length and is explicitly identifiable in every data file and data record in which it appears. The present physical implementation of the standardized format was also influenced by the hardware and software of the computer system installed. The format would be functional, however, in many other systems utilizing modern data processing equipment.

Field Name [2]	Frequency of* Occurrence	Length (bytes)	
		Avg.	Max.
Registry Number	1,048,802	4	4
Text Descriptor	1,048,802	8	50
Graph List	446,326	45	320
Node List	824,763	34	254
Bond List	920,561	36	288
Hydrogen Count	1,033,220	8	128
Abnormalities	299,367	19	80
Atom Fragments	201,485	16	80

* as of April, 1969

To date, five major applications have been installed using standard files. At least three other major applications are in various stages of study, design, or implementation. Programs for each installed application are run regularly from several times per day to once per week. Master files in three of these applications contain 110,000 items (76 million bytes), 617,000 items (97 million bytes), and over 1,000,000 items (128 million bytes) respectively. Transactions -- those activities in which information units are retrieved for further manipulation or in which data elements associated with the information units are added, deleted or changed -- average 1000 per day for each of the three applications. File growth currently is approximately 50,000,000 bytes per year.

Since the introduction of SFF, more generalization is present within the entire installation. Several programs written for one application have been used in other applications with only slight modification. The increased generality is due not only to the standardization of the file, but also to the use of table driven programs to process the SFF files. Such programs have been written for editing, validation, creation of data files from raw input, file maintenance activities, and data selection based on the logical combination of specified data element values. Utility programs, such as those for file print or file creation, are also table-driven. The identification of data elements which are to be transferred through the various application files rather than processed by application programs is possible with table-driven programs. This capability is highly desirable at CAS since a number of organizations wish to process their data through the CAS information system and to coordinate the resultant data with their own internal filing systems.

The insensitivity of the programs to the addition of data elements allows integration of data files across several application areas. The standardized files become, in effect, an information reservoir from which programs extract specific information of interest to them and into which they deposit labeled information. The standardized format can also provide a stable interface for data exchange with users of the CAS information services and files. Users may write their own software knowing that CAS will change its processes and products only within the bounds of the standard.

LOGICAL DESCRIPTION

Each data element of the SFF is rigorously defined on hard copy documents. This description is not stored in the computer at present, but is implicit within the coded programs. Every data element in the entire CAS system is considered variable in length, as stated above, and consists of two logically connected fields: (1) the data element value, which is stored in a manner consistent with the data element description, and (2) the data element tag. Characteristic of the data element tag is the data element identifier, a unique code applied to the data element upon initial description. This identifier remains the same for every appearance of the data element in any application area or in any data file. The modifier to the data element identifier permits revisions in the original description of the data element as well as slight differences in usage from system to system. It also allows for the grouping of several occurrences of the data element in some predetermined order. The data element tag also indicates the length of the data element for a particular occurrence in addition to the location of the data element value. The location is relative to a predefined reference point and physically locates the initial byte of the data element value.

A grouping of data elements in some predetermined order comprises a data record. Every data record in the CAS system is variable in length and contains a varying number of data elements. A data record descriptor and data element tags, in addition to the data element values, are included in each data record. (See Figure II)

Data element tags are groups of four fixed-length fields (identifier, modifier, location, length) related to one variable-length field containing a value. The record descriptor, contained within the first few bytes of a record, specifies the total record length, the number of fixed length tags, and several bytes of control information.

A varying number of logical records are stored within a physical record. A physical record is one that exists, for instance, between inter-record gaps on magnetic tape. A data file in the CAS system comprises a number of variable length physical records.

PHYSICAL DESCRIPTION

Since CAS had an IBM System/360 installed and operating under OS/360, the present physical implementation of the SFF was designed to utilize OS/360 Data Management [3]. SFF standards also consider core storage boundaries, storage width (the number of bytes obtained with each storage access), and the execution requirements of hardware instructions. With these factors as guidelines, we chose the basic unit of information to be the byte (as opposed to a bit), to use fixed-point binary values wherever possible, and to set boundary alignments at the double word (8 byte) limit. The format was implemented with basic hardware requirements -- the ability to process 8 bit bytes and the ability to transmit binary data to or from tapes and disks -- so that it would not be limited to System/360.

The SFF having been thus implemented, the data element is variable in length but occupies a space containing an integral number of double words (8 bytes). The data element tag occupies a double word of storage in which bytes 0 and 1 contain the data element identifier expressed as a halfword, fixed-point, binary number. Byte 2 is reserved for the CAS software system use. Byte 3 contains, as a binary number whose value must be between 1 and 255, the modifier to the data element identifier. The halfword, fixed-point, binary number contained in bytes 4 and 5 provides the location of the data element value relative to the first byte of the record containing the data element tag. Bytes 6 and 7 are a halfword, fixed-point, binary number whose value is the exact length (in bytes) of the data element value.

To permit optimum performance on a System/360 model 65, with the trivial penalty of a few unused bytes to the less complex models or to equipment of other manufacturers, the first byte of each data element value within the record is aligned on a double word boundary. The content, format, and coding scheme used to represent the data element value are described by the data element description document.

Each logical data record in the CAS system contains an integral number of double words up to a maximum of 450. This is a parameter of the design and can be altered to accommodate different hardware. Information units consisting of several data elements whose aggregate length is greater than 450 double words are at present described by several logical records. Each record is keyed to a single information unit and adheres to the SFF and length standards.

The first double word of each record is the record descriptor in a format conforming to OS/360 Data Management Standards. (See Figure III.) Bytes 0 to 3 contain the overall record length; bytes 4 and 5 are reserved for future use and contain the binary value of zero. Byte 6 holds the record modification code which is used by the CAS software system when processing the record. Byte 7 contains a number n whose binary value is equal to the number of data element tags present in the record.

The next n double words constitute the fixed length tag segment (see Figure III) of the data record. At present, the tags can be stored in either random or ascending order based on the binary value of bytes 0, 1, and 3 of the data element tag. Byte 6 of the record descriptor controls the tag list search: 1 = preferred order; 2 = ascending order. The two potential orderings of data element tags provide a means for reducing overhead in processing time. Preferred ordering is used when it is known that certain data elements have high activity; sequential ordering is used if activity is unknown or is known to be equally distributed over the data elements.

The data element value is stored in that segment of the record (see Figure III) that follows the tag segment. Each data element value has its first byte aligned on a double word boundary. No assumptions can be made regarding the contents of the space between the end of one data element value and the beginning of another. To avoid redundant data moves and allow for a "logical delete" capability, there is no relationship between the order of appearance of the data element tags and the order of appearance of the data element values.

There is one exception to the above description of the storage of data element values. If its length is four bytes or less, the data element value itself is stored in bytes 4-7 of the data element tag. In this case, the length of the data element value is then stored in byte 2 of the data element tag. This storage function is handled by the software system and is transparent to the application programmer.

A final point on the physical implementation of SFF is the alignment of each logical record within the physical record on a double word boundary. This is caused by the location of the input/output buffers for each data file on a full word boundary that is not also a double word boundary. The tags of each data element and the first byte of each data element value (see Figure IV) are likewise aligned on double word boundaries.

DATA BASE CONTROL

A data base specialist maintains central control of data element descriptions which have become increasingly important under SFF. The specialist reviews all data element descriptions, identifying incompatibilities and resolving minor differences of definition with appropriate attention to installed systems. Since the descriptions contain precise information concerning the allowable maximum and minimum length of the data element value, and since the data base specialist reviews any change proposed for a data element, fewer "bugs" have crept into production programs. The editing/validation procedures have greatly improved. The data base specialist has control also over the use and assignment of data element identifiers and their modifiers.

To date, 322 data element identifiers have been assigned for 6 applications. Of these 322 data elements, 276 have occurred in only one set of application programs, and 46 appear in two or more applications. More than 50 data elements have been defined for internal system use including system control, usage and activity statistics, and file auditing.

SOFTWARE REQUIREMENTS

In order to avoid programming errors, permit expansion capabilities, and insure adherence to standards, a set of I/O software was provided for installation-wide usage. A logical capability similar to "PUT" logic at the data record level is thus introduced at the data element level and facilitates the creation of new records. Data elements become accessible through a capability similar to "GET" logic at the record level. Invoked functions that effect data record modifications such as deletion, addition, or replacement of data elements do not require specific direction from the programmer. Standard installation utility programs such as the OS/360 Sort/Merge have been modified to operate with data element identifiers for sort-field definition and to process the standard files.

OPERATIONAL PROBLEMS

There are, nevertheless, several disadvantages to the SFF. It must be noted that no compiler language, e.g., Fortran, PL/I (up to Version 3), or COBOL, evaluated at CAS can build the SFF without the use of assembler language routines. The use of PL/I (Version 4) for this purpose is currently under study. Access to data in an existing SFF record is possible through subscripting, but not in a very direct manner.

Also there is a possible increase in the space required for file storage. This increase is difficult to measure because the parameters required for any measurement are widely variant. The parameters include:

1) the number and frequency of occurrence of fixed-length data elements,
2) the number and frequency of occurrence of variable-length data elements,
3) the average length of each data element,
4) the probability that new data elements will be required in the future, and
5) the arrangement of data elements into records which describe the contents of an information unit.

An analysis of two large standard files indicates that data element values occupy 55-65%, data element tags occupy 28-31%, and padding to maintain boundary alignments occupies 8-12% of the total file space. Comparison of the two standard files against files in the format formerly in use at CAS shows that the standard file was 94% of the calculated normal file space in one case and 108% of the calculated normal file space in the other.

Overhead time necessary to locate a data element within a record must be considered. Estimates for an IBM System/360 Model 50 are 0.3 milliseconds to locate a data element that is one of ten in the record and 0.8 milliseconds to locate a data element that is one of 25-30 in the record. With the use of multiprogramming facilities, fast tape drives, and buffered I/O, tape length is no longer a dominant factor in the total processing time.

The overhead associated with processing the standardized files still permits operation of multiple partitions on a 360/50.

FUTURE PLANS

A future goal for the standardized format is to have each data element be a self-contained, self-defining unit insofar as possible. One step toward this goal will be to include the storage mode (e.g., packed decimal, character) of the data element value within the data element tag. Another step will be to provide a machine-intelligible counterpart of the data element description now contained on hard copy.

At present, CAS still operates a tape-oriented system. Conversion to directly addressable storage media is planned for the near future. Possibly operational at that time will be the dynamic reference point. As such, the data element would contain not the data element value, but the storage location (i.e., "File Name" and access key) of the data element value. Finally, it is planned to develop a comprehensive file-management/file-processing system based upon the standardized format [4-6].

CONCLUSIONS

The installation of SFF at CAS has, in our opinion, been extremely successful. The advantages gained through use of SFF far outweigh the disadvantages. The system has good capability to adapt to new demands both because of the generality of its programs, and also because of the insensitivity of these programs to the addition of data elements and to changes in the length of data elements. On the other hand, since costs associated with computational capability and storage facilities continue to decrease through improvements in computer technology, the overhead of file processing and the volume of file storage become less threatening as economic liabilities. The generality and stability of the overall system will largely eliminate the need for frequent reprogramming cycles for the complete system.

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Manuscript received ____________________.

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FIGURE I

TYPICAL DATA ELEMENT LENGTH VARIANCE

Dolichol	8 CHARACTERS
Calcium chlorate	16 CHARACTERS
Cobinamide, phosphate, 3′-ester with 5,6-dimethyl-1-α-D-ribofuranosylbenzimidazole, *Co,Co′*-succinate, bis(inner salt),	117 CHARACTERS
Glycine, valylleucylserylglutamylglycylglutamyltryptophylglutaminylleucylvalylleucylhistidylvalyltryptophylalanyllysylvalylglutamylalanylaspartylvalylalanylglycylhistidylglycylglutaminylaspartylisoleucylleucylisoleucylarginylleucylphenylalanyllysylserylhistidylprolylglutamylthreonylleucylglutamyllysylphenylalanylaspartylarginylphenylalanyllysylhistidylleucyllysylthreonylglutamylalanylglutamylmethionyllysylalanylserylglutamylaspartylleucyllysyllysylhistidylglycylvalylthreonylvalylleucylthreonylalanylleucylglycylalanylisoleucylleucyllysyllysyllysylglycylhistidylhistidylglutamylalanylglutamylleucyllysylprolylleucylalanylglutaminylserylhistidylalanylthreonyllysylhistidyllysylisoleucylprolylisoleucyllysyltyrosylleucylglutamylphenylalanylisoleucylserylglutamylalanylisoleucylisoleucylhistidylvalylleucylhistidylserylarginylhistidylprolylglycylasparaginylphenylalanylglycylalanylaspartylalanylglutaminylglycylalanylmethionylasparaginyllysylalanylleucylglutamylleucylphenylalanylarginyllysylaspartylisoleucylalanylalanyllysyltyrosyllysylglutamylleucylglycyltyrosylglutaminyl-,	MORE THAN 1000 CHARACTERS

FIGURE II

STANDARDIZED DATA RECORD FORMAT

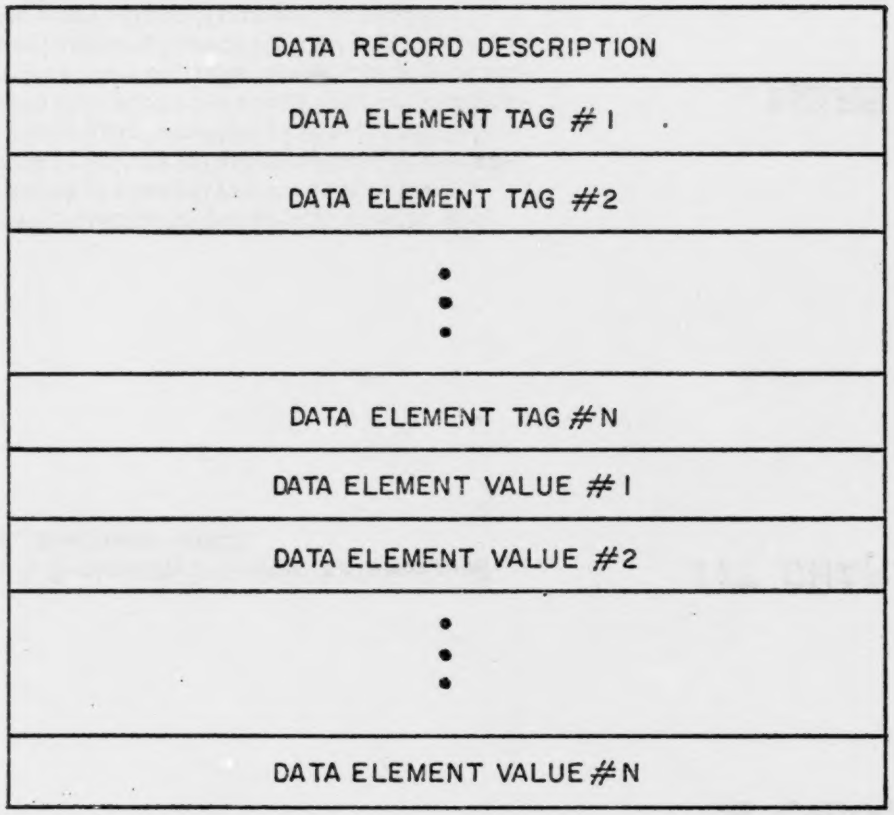

DATA RECORD DESCRIPTION
DATA ELEMENT TAG # 1
DATA ELEMENT TAG #2
DATA ELEMENT TAG #N
DATA ELEMENT VALUE # 1
DATA ELEMENT VALUE #2
DATA ELEMENT VALUE #N

FIGURE III

DETAIL DATA RECORD FORMAT

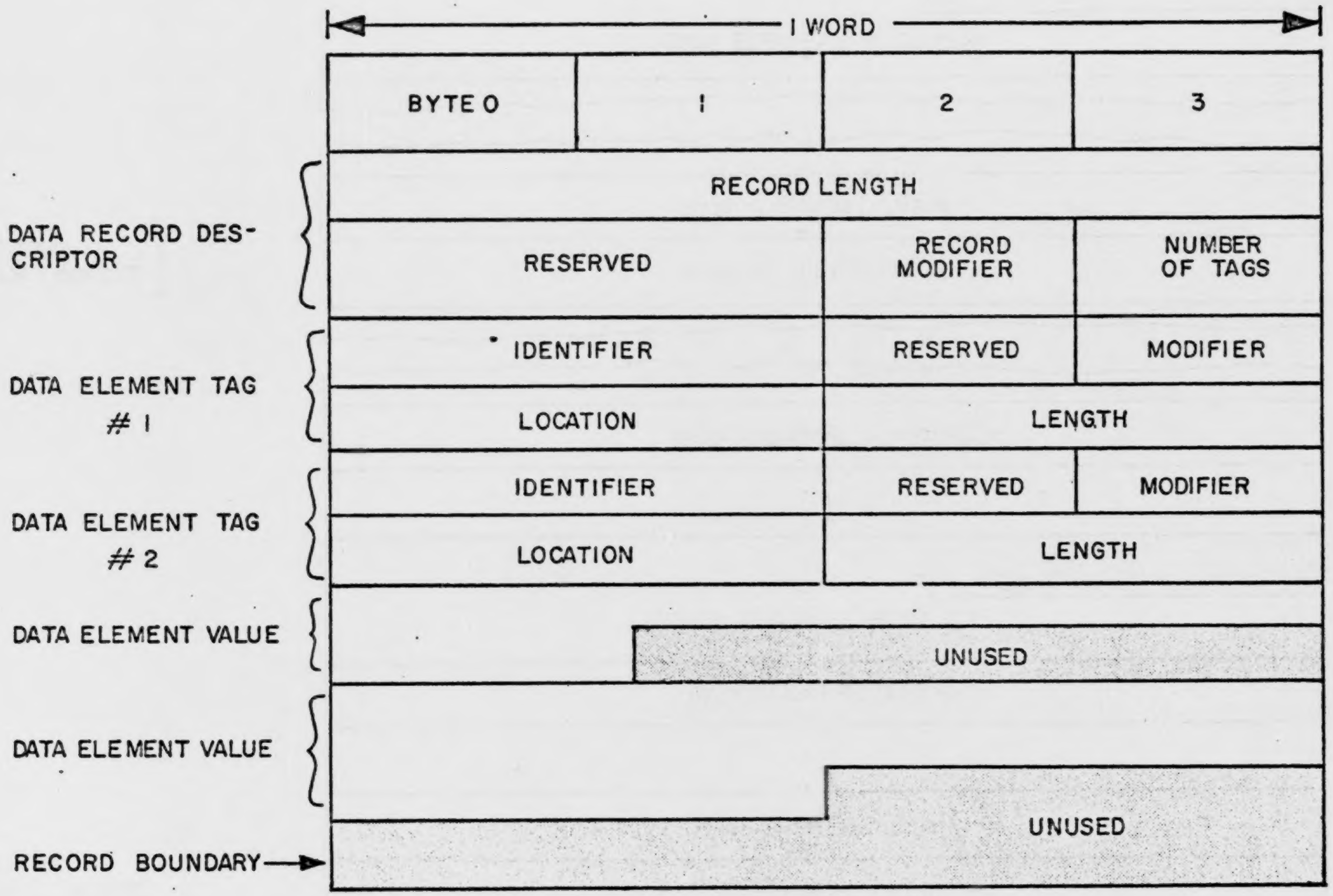
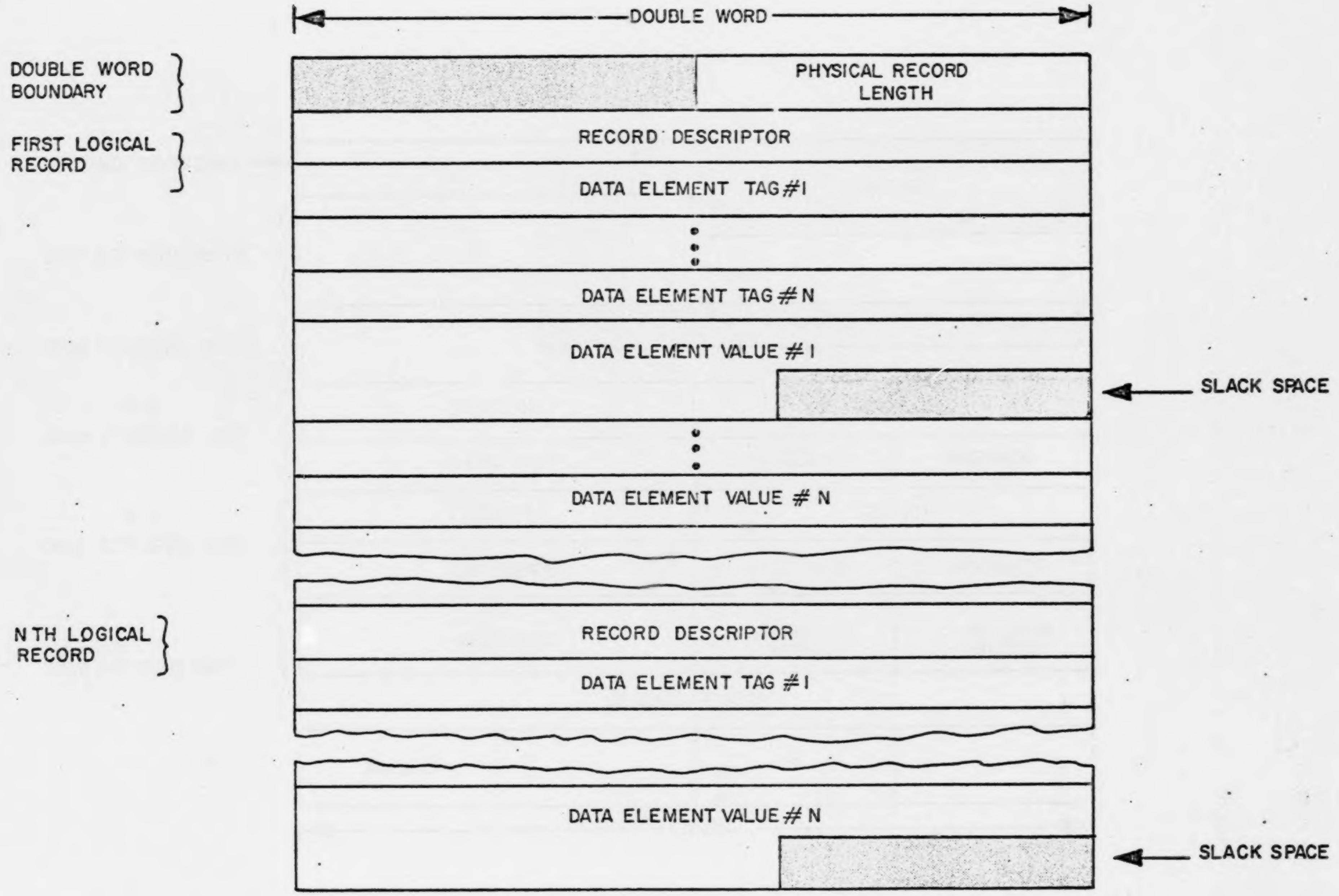

I WORD
BYTE 0
1
2
3
DATA RECORD DESCRIPTOR
RECORD LENGTH
RESERVED
RECORD MODIFIER
NUMBER OF TAGS
DATA ELEMENT TAG # 1
IDENTIFIER
RESERVED
MODIFIER
LOCATION
LENGTH
DATA ELEMENT TAG # 2
IDENTIFIER
RESERVED
MODIFIER
LOCATION
LENGTH
DATA ELEMENT VALUE
UNUSED
DATA ELEMENT VALUE
UNUSED
RECORD BOUNDARY

FIGURE IV

PHYSICAL RECORD ALIGNMENT.


DOUBLE WORD
DOUBLE WORD BOUNDARY
PHYSICAL RECORD LENGTH
FIRST LOGICAL RECORD
RECORD DESCRIPTOR
DATA ELEMENT TAG #1
DATA ELEMENT TAG # N
DATA ELEMENT VALUE # 1
SLACK SPACE
DATA ELEMENT VALUE # N
NTH LOGICAL RECORD
RECORD DESCRIPTOR
DATA ELEMENT TAG # 1
DATA ELEMENT VALUE # N
SLACK SPACE

APPENDIX 4

Chemical Abstracts Service
Document Availability Study

Sample-Size Considerations

July 31, 1968

by

Dr. Albert B. Bishop
Consultant

Introduction

Among the information to be determined through the study "Availability of Primary Scientific and Technical Documents Within the United States" being conducted by Chemical Abstracts Service for the Office of Education were to be estimates of:

1. The distribution of the ages of scientific and technical documents requested from participating libraries, and
2. The distributions of times taken to fulfill each of the activities required to effect an interlibrary loan (ILL) at each participating library.

All data were limited to ILL requests since records for other types of service, primarily local over-the-counter requests, are not in a form which would allow ready accumulation or analysis.

Nineteen libraries in the United States participated. As a result of the analysis discussed in the remainder of this report, each library was asked initially for (1) a 10% sample of their ILL requests for the 12-month period prior to the inception of the study and (2) at least 500 items from current requests covering a minimum of eight weeks of operation. Age of document information was to be furnished in both types of samples, but processing time data, which is not usually recorded as a matter of routine in any detail, was to be included as a special operation in filling the current sample.

The sample sizes requested were felt to be compatible with the capability of the 19 libraries to accomplish the work, the budget available to support the sampling operation, the CAS capability to analyze the data, and with the reasonable standards of quality and precision of the estimates to be made.

Age Distribution of Documents Requested

Two approaches were followed to determined an adequate sample size for the estimation of the distribution of the ages of documents requested, and the results from each were found to be comparable. The first was a distribution-free method, i.e., no assumptions were made regarding the functional form of the distribution. The other approach was based on the assumption that the underlying distribution is exponential.

Each of the two approaches will be discussed in detail and calculations for sample size (n) made for various possible values of the system parameters and constraints on the precision of the estimates of these parameters.

A. Fraction of Documents in Given Age Category

This approach is based on providing individual estimates of the fraction of available documents in each age category. It necessitates division of the time axis into discrete class intervals. For example, all documents published in a given calendar year could be considered as belonging to the same class interval regardless of when during the year they were published. If desirable, six-month, two-year, or any convenient interval could be used. In general, the smaller the interval, the more data are required to provide sufficient numbers of items in each interval to obtain a given level of precision in the estimates. This is, of course, offset by being able to pin down the age of each document more closely. It should be noted that with respect to the mathematical foundations of the estimating procedures, the intervals do not have to be the same size. Each can be chosen for convenience. Thus, one might choose relatively narrow intervals for the more recent years in which publications are expected to be plentiful and wider intervals to cover bygone years when fewer documents were published. When need be, the intervals can be selected after the data are obtained.

Let us define:

t = actual age of a document, a continuous variable

j = age class (for one-year intervals, $j = 1$ would indicate a document less than a year old, $j = 2$ a document between one and two years old, etc.)

n = total number of requests in the sample, i.e., the sample size

n_j = the number of requests falling in class interval j

$F(j)$ = n_j/n = the fraction of requests in the sample which fall in class interval j

$f(j)$ = the true fraction of all requests which fall in class interval j, i.e., the probability of a request chosen at random falling in interval j.

Our task is to find an estimator for f(j) and a sample size (n) large enough so that the estimator has a sufficiently large probability of being reasonably close to the true value f(j). Determination of what constitutes "sufficiently large" and "reasonably close" are arbitrary from a statistical point of view. In practice they are set by judgment, convenience, and management prerogative. This is why several sets of values are used in the calculations herein.

It so happens that the sample fraction F(j) is an excellent estimator of f(j). It can be shown that F(j) is binomially distributed with expected value

$$E[F(j)] = f(j) \tag{1}$$

and variance

$$\sigma^2_{F(j)} = \frac{f(j)[1-f(j)]}{n} \quad . \tag{2}$$

For sample sizes of 200 or more, the binomial distribution of F(j) can be approximated by a normal distribution with mean and variance given by (1) and (2), respectively, provided that

$$f(j) \cdot n \geq 5 \quad . \tag{3}$$

when (3) holds, confidence limits for f(j) for a given F(j) are

$$F(j) \pm Z_{\alpha/2} \cdot \sigma_{F(j)} \quad . \tag{4}$$

where

α = the probability that f(j) does not lie in the interval specified

and

$Z_{\alpha/2}$ = the number of standard deviations between the mean of a normal distribution and a point beyond which $\alpha/2$ of the distribution lies (this assumes what are called symmetrical confidence limits, i.e., there is an equal probability, $\alpha/2$, of f(j) being above or below the confidence interval).

We now define L as the maximum allowable distance from the center of the confidence interval (F(j)) to either limit as given by (4). That is,

$$Z_{\alpha/2} \cdot \sigma_{F(j)} \leq L \quad . \tag{5}$$

The selection of a value for α is determined by what is deemed "a sufficiently large probability" as previously discussed. A very common value for use in exploratory situations such as this is $\alpha = .05$. Thus, there is a 95% chance that the true value (f(j)) lies within the interval selected. This is usually considered a moderate value for and will be used exclusively in this report. For $\alpha = .05$, $Z_{\alpha/2} = 1.96$. For ease in calculation, we will use

$z_{\alpha/2} = 2$, which actually corresponds to $\alpha = .046$, thus providing a 95.4% chance that f(j) is in the confidence interval. Substituting in (5), we get

$$\frac{2\sqrt{f(j)[1-f(j)]}}{n} \leq L$$

which, after squaring and rearranging yields

$$n \geq \frac{4\ f(j)[1-f(j)]}{L^2} \quad .$$

Thus, for a given hypothesized f(j), the smallest permissible sample size is

$$n\ \text{min} = \frac{4\ f(j)[1-f(j)]}{L^2} \quad . \qquad (6)$$

Since f(j) is not known in advance, it is useful to find n min for the worst possible value that f(j) can assume. This value is $f(j) = 1-f(j) = 0.5$. Thus an upper bound on n min is given by

$$n\ \text{min max} = \frac{4 \times .5 \times .5}{L^2} = \frac{1}{L^2} \quad . \qquad (7)$$

It is doubtful that this upper bound would ever be closely approached since, with one-year class intervals, it is unlikely that more than 20 or 25% of the requests would ever lie in the same class interval. For $f(j) = 0.25$, n min = $.75/L^2$, only three quarters of n min max.

It is interesting to note that if the age distribution of the documents requested is exponential, as is assumed in the second approach to this problem, then the maximum f(j) will occur for $J = 1$ and is equal to, for a one-year interval, and administrative capacity. For an L of 0.01, i.e., an estimate of f(j) within one percentage point of the true value (with 95.4% confidence), n min max = 10,000. For a one-half percentage-point estimate, i.e., L = 0.005, n min max = 40,000. Since values of L in this range provide very good practical estimates, it is safe to say, based on the above analysis, that a sample size of from 10,000 to 40,000 should be ample to estimate the age distribution of the documents being requested.

Note that with n = 10,000 the condition for the validity of the normality assumption expressed by (3) holds for values of f(j) as low as 0.0005, certainly not a very interesting part of the distribution. Therefore, it is safe to say that the above formulation is adequate for any f(j) of practical interest.

B. Estimation of Average of Exponential Age Distribution

Some evidence gathered to date is reported to indicate an exponential type of decrease in the number of requests for scientific and technical documents as the age of the documents increases. It, therefore, appears reasonable to assume the distribution is indeed exponential and to determine the sample size required to properly estimate T, the average age, which is the parameter of the exponential distribution. In this analysis it is easier to treat time as a continuous variable, although class intervals could be used both in planning and in processing of data. In the

$$f(1)_1 = \int_{t=o}^{1} \frac{1}{T} e^{t/T} dt$$

$$= 1 - e^{-1/T} \qquad (8)$$

where T is the true average age of the documents being requested throughout the country. Table I shows values of f(1) and the ratio of n min to the upper bound (n min max) for various values of T. Since T also corresponds to the time at which an exponential curve has decreased to $^1/e = 0.368$ of its value at time zero, it would seem unlikely that T would be less than 3 or 4. From Table I we see again that the upper bound (n min max) should not be approached very closely.

TABLE I

VALUES OF f(1) AND n min/n min max FOR VARIOUS VALUES OF MEAN AGE OF DOCUMENTS REQUESTED

T (years)	f(1)	n min/n min max
2	0.393	0.956
3	0.284	0.815
4	0.221	0.689
5	0.181	0.594
10	0.095	0.344

Even though it is doubtful that samples of size n min max would ever be required, it is still comforting to plan on the basis of n min max if these values are within budget limitations where α and $Z_{\alpha/2}$ are as previously defined. We now define Γ as the maximum allowable distance from the center of the confidence interval (= $\hat{T}$) to either limit as given by (13). Thus

$$Z_{\alpha/2} \cdot \sigma_{\hat{T}} \leq \Gamma \quad . \qquad (14)$$

Using $Z_{\alpha/2} = 2$ for the reasons previously explained, (14) becomes

$$\frac{2T}{\sqrt{n}} \leq \Gamma$$

or

$$n \geq \frac{4\,T^2}{2} \quad .$$

Thus, for a given hypothesized T, the smallest permissible sample size is

$$n\ \text{min} = \frac{4\,T^2}{2}\ \Gamma^2 \quad . \qquad (15)$$

Table II shows the values of n min for various combinations of T and Γ . Only one of the entries in Table II exceeds 40,000 and all but three are well within the 10,000 to 40,000 sample size recommended on the basis of our previous analysis. All of the figures of 40,000 or more, however, correspond to values of Γ of 0.01 year or less, which corresponds to a little more than a month. (Two of the figures are actually for $\Gamma = 0.05$ year, about 2 1/2 weeks.) Such precision in estimating T seems extremely unnecessary, especially in light of the somewhat tenuous original assumption of a purely exponential distribution. Hence, there is nothing in this analysis which invalidates the sample sizes previously derived.

presentation which follows we will work directly with the continuous variable t.

Let t_i represent the age of the i^{th} document requested in the sample. Thus, i = 1, ---, n. Each t_i is a value taken on by the random variable, t, which, by our assumption, has a probability density function

$$p(t) = \frac{1}{T} e^{-t/T} \quad . \qquad (9)$$

The maximum-likelihood estimator $(\hat{T})$ of the parameter T can be shown to be

$$\hat{T} = \frac{1}{n} \sum_{i=1}^{n} t_i \quad , \qquad (10)$$

namely, the average of the ages in the sample. It can also be shown that the expected value of this estimator $(E(\hat{T}))$ is

$$E(\hat{T}) = T \quad , \qquad (11)$$

which means it is also an unbiased estimator, and that its variance $(= \sigma^2_{\hat{T}})$ is

$$\sigma^2_{\hat{T}} = \frac{T^2}{n} \quad . \qquad (12)$$

Since $\hat{T}$ is the average of a large number of random variables, specifically n of them, it should, by the Central-Limit Theorem, be normally distributed. Thus confidence limits for T can be expressed as

$$T \pm Z_{\alpha/2}\, \sigma_{\hat{T}} \qquad (13)$$

TABLE II

VALUES OF n min FOR VARIOUS COMBINATIONS OF AVERAGE-AGE AND CONFIDENCE-INTERVAL BOUNDS

Average Age, T, In Years	Confidence-Interval Bound, Γ , in Years					
	.05	.10	.20	.30	.40	.50
1	1,600	400	100	44	25	16
2	6,400	1,600	400	178	100	64
3	14,400	3,600	900	400	225	144
4	25,600	6,400	1,600	712	400	256
5	40,000	10,000	2,500	2,778	625	400
10	160,000	40,000	10,000	4,444	2,500	1,600

Should it be desired to test the assumption of an exponential distribution, a goodness-of-fit test could be used. The most common and best understood of this type of test is the chi-square (χ^2) test.

To use the χ^2 test, the data are grouped into class intervals in the manner discussed in A above. For an assumed exponential distribution with parameter T, the true value of the fraction of ages which fall into class interval j is given by

$$f(j) = e^{-t_{L(j)}/T} - e^{-t_{u(j)}/T} \qquad (16)$$

where

$t_{L(j)}$ = the lower boundry of class interval j and

$t_{u(j)}$ = the upper boundry of class interval j.

Class interval boundries can be selected for convenience as previously discussed, but for good results they should be selected so that (3) holds. As mentioned, for n = 10,000, (3) is met for $f(j) \geq 0.0005$. On this basis, one-year intervals could be used for

$$j = 1, ---, \langle 8T \rangle \qquad (17)$$

where the symbol $\langle\,\rangle$ means "the largest integer contained in". That is, as long as j is equal to or less than 8T, one-year class intervals can be used. For older documents larger intervals would be necessary. At some point it will become convenient to define a j max such that $t_{u(j\ max)}$ is infinite, i.e., every document $t_{L(j\ max)}$ or greater is lumped into a single catch-all class interval. For this interval,

$$f(j\ max) = e^{-t_L(j\ max)/T} \quad . \qquad (18)$$

Suppose, after calculating $\hat{T}$ by (10) we wish to use the χ^2 goodness-of-fit test to check our assumption of an exponential age distribution. Suppose also that we divide the age axis into j max + 1 = $\mathcal{J}$ class intervals. For each class interval we determine f(j) from (16) using $\hat{T}$ for T and F(j) from the sample data, and calculate

$$\frac{[F(j)-f(j)]^2}{f(j)} \qquad j = 1, --- \mathcal{J} \ . \qquad (19)$$

Summing over j, we compute the statistic

$$\chi^2 (J-1) = \sum_{j=1}^{J} \frac{[F(j)-f(j)]^2}{f(j)} \qquad (20)$$

which has a χ^2 distribution with $(J-1)$ degrees of freedom. The larger the deviations between the actual $F(j)$ and expected $f(j)$ values, the larger the calculated value of $\chi^2(J-1)$ will be and the less confident we are that the sample data actually come from the assumed distribution. The question is, how big can $\chi^2(J-1)$ become before we reject the assumption of an exponential distribution with parameter $T = \hat{T}$? This can be determined quantitatively if we can state what risk we are willing to run of rejecting the assumption when actually it is true. For a five-percent risk, these values canbbe found from the 0.05 column of the χ^2 distribution for the appropriate number of degrees of freedom. Table III shows a few such values. If the calculated value is equal to or less than the value shown in the table for the same degrees of freedom, the assumption of exponentially distributed ages is not rejected. More extensive tables of the χ^2 distribution may be found in any standard text on probability theory and statistics.

TABLE III

LIMITING VALUES OF χ^2 FOR PROBABILITY OF FALSE REJECTION OF THE ASSUMED DISTRIBUTION OF 0.05

Degrees of Freedom	Limiting Value of χ^2
2	5.99
3	7.82
4	9.49
5	11.1
7	14.1
10	18.3
15	25.0
20	31.4
25	37.7
30	43.8

It should be noted that the χ^2 test can be used to test the goodness-of-fit of sample data to any assumed distribution. The f(j) would, of course, be computed from the formula for whatever distribution was assumed. The distribution parameters may be either assumed directly, based on prior knowledge, or estimated from the sample data as was done for T above. The number of degrees of freedom to use when entering the χ^2 table is J, the number of class intervals used, minus the number of parameters which were estimated from the sample data. For the exponential distribution where one parameter, T, was estimated in this manner, the number of degrees of freedom was (J-1).

Processing Times in Filling Interlibrary Loan Requests

It was originally planned to try to determine the distribution of the time required to accomplish each of the various steps in filling an ILL request with the idea that these times could then be used as a basis for costing out these activities. It soon became apparent that such information was not available on a routine basis and would require major time-study efforts to acquire. Since precise estimates of these times were not felt to be critical to the overall success of the study, questions concerning processing time were deleted from the list of information requested from the participating libraries. In its place, a simple classification of the degree of difficulty encountered in filling the request was asked for, the categories being routine (R), non-routine (NR), and difficult (D).

Even though the time-estimating procedure was abandoned, it is nevertheless presented here for general interest and in case some future extension or modification of the study might require a similar analysis to be made.

A. Processing Time Recorded as a Continuous Variable

In those cases in which the person supplying the data is asked to write in the elapsed time for some task, processing time (t) can be treated as a continuous variable. Since t is actually the sum of the times required for a large number of minute subtasks, it can be assumed to be roughly normally distributed by the Central-Limit Theorem.

Let t_i represent the time required to perform some processing task of interest on the i^{th} request in the sample. Thus, i = 1, 2---, n. Each t_i is a value taken on by the random variable t, which, by the assumption just stated, has a probability density function

$$p(t) = \frac{1}{\sqrt{2\pi\sigma}}\ e \ = \ \frac{1}{20}\ 2(t-\mu)^2 \qquad (21)$$

where

μ = the true average time to complete the task of interest, and

σ^2 = the variance of processing times (therefore, σ is the "standard duration of the processing times around the mean μ) .

The maximum-likelihood estimator of μ is

$$m = \frac{1}{n} \sum_{4=1}^{n} t_i \quad , \qquad (22)$$

namely, the average of the processing times in the sample. Note that m has the same formula as did T in the last section (see equation 10). Furthermore, the estimator m is normally distributed with expected value

$$E(m) = \mu \qquad (23)$$

(i.e., m is unbiased), and variance

$$\sigma_m^2 = \sigma^2/n \quad . \tag{24}$$

For large samples, certainly for n 100, the normality of m is true regardless of the distribution of t. Since in general σ^2 is not known, confidence intervals for μ based on sample values depend upon the Student-t distribution, a distribution which is independent of the parameter σ^2. For large samples, however, the Student-t approaches the normal distribution with the sample variance,

$$s^2 = \sum_{i=1}^{n} \frac{(t_i - m)^2}{n-1} \quad , \tag{25}$$

used as an estimator for σ^2. One usually uses this normal approximation for purposes of calculation whenever the sample size exceeds 30.

For any hypothesized σ^2, confidence limits for μ can be expressed as

$$m \pm Z_{\alpha/2} \quad \frac{\sigma}{\sqrt{n}} \quad , \tag{26}$$

where α and $Z_{\alpha/2}$ are as previously defined. We now define Λ as the maximum allowable distance from the center of the confidence interval (m) to either limit as given by (26). Therefore,

$$Z_{\alpha/2} \cdot \frac{\sigma}{\sqrt{n}} \leq \Lambda \quad . \tag{27}$$

Using $Z_{\alpha/2} = 2$ as before, (27) becomes

$$\frac{2\sigma}{\sqrt{n}} \leq \Lambda \tag{28}$$

or

$$n \geq \frac{4 \sigma^2}{\Lambda^2} \quad . \qquad (29)$$

The smallest possible n for this σ^2 is, of course,

$$n \min = \frac{4 \sigma^2}{\Lambda^2} \quad . \qquad (30)$$

Table IV shows the values of n min for a few combinations of and Λ. Blanks refer to sample sizes of less than two, from which no variance calculation could be made. Note that where values less than 30 appear, they can be treated only as approximations since the normal approximation to the Student-t distribution does not hold well under such conditions.

TABLE IV

VALUES OF n min FOR VARIOUS COMBINATIONS OF PROCESSING TIME STANDARD DEVIATION AND CONFIDENCE INTERVAL BOUNDS

Time Standard-Deviation, O, In Hours	Confidence-interval bound, Λ, in hours				
	0.0167 (one minute)	0.25	0.50	1.00	2.00
0.25	900	4	-	-	-
0.50	3,600	16	4	-	-
1.00	14,400	64	16	4	-
2.00	57,600	256	64	16	4
8.00	921,600	4,096	1,024	256	64

Note that all values of n min corresponding to what might be considered reasonable values of σ and Λ are much less than 500.

It was on this basis that the size of the so-called "current sample" at each library was set at 500. It was felt that this should be sufficient for a library-by-library analysis of processing times; however, the plan was to use the results of the samples of 500 to compute sample values of Δ^2 and, with these as estimators for σ^2, to recompute n min for each library. Should any of the n min values so calculated exceed 500, the required additional sample items would be gathered and combined with the original 500 for the final analysis.

B. Effects of Quantization Intervals in Data Recording

In those cases in which the person supplying the data is asked to check a box corresponding to a time interval instead of putting down the actual time as assumed above, equation 30 may no longer be used to calculate n min. This is because the value extracted from the data sheet (usually the mid-point value of the interval) no longer exactly represents the true processing time. Instead it is the su[illegible] of the true time (t) and is called a quantization error.

For the simplest type of quantization, in which each quantization interval is of equal size, q, it can be shown that the variance of the recorded values of processing time (t′) have a variance approximated by

$$\sigma_{t_i}^2 = \sigma^2 + \frac{q^2}{12} \quad . \tag{31}$$

That is, t' has a variance essentially equal to the sum of the variance of the actual time (t) and the variance of a quantization error uniformally distributed over an interval of width q. The increases in variance caused by various quantization intervals are presented in Table V. The standard deviations of recorded processing time (t') for a one-hour quantization interval and various values of σ are given in Table VI. Comparison with Table IV shows that use of a one-hour quantization interval in the collection of processing time data would have little, if any, practical effect on the sample sizes required. It, of course, causes significant increases in the calculated values of n min for σ values of 0.25 and 0.50, but it has already been established that these values were too low for other reasons. In no case would the adequacy of the sample of 500 be in jeopardy where it was satisfactory without quantization.

TABLE V

INCREASES IN VARIANCE FOR VARIOUS QUANTIZATION INTERVAL WIDTHS

Interval Width, q, in Hours	$\frac{q^2}{12}$
0.25	0.0052
0.50	0.0208
1.00	0.0833
2.00	0.3333
8.00	5.3333
24.00	96.0000

TABLE VI

VALUES OF STANDARD-DURATION OF RECORDED PROCESSING TIME GIVEN A ONE-HOUR QUANTIZATION INTERVAL AND VARIOUS VALUES OF STANDARD DEVIATION FOR ACTUAL PROCESSING TIME

Standard Deviation of Actual Time, σ , in Hours	Standard Deviation of Recorded Time, $\sigma_{t'}$, in Hours
0.250	0.382
0.500	0.578
1.000	1.044
2.000	2.020
8.000	8.010

Should a similar quantization procedure be applied in collecting age of document information, the estimation of the parameter of the exponential distribution discussed earlier would likewise be affected. Equation 12, when applied to the recorded ages ($\hat{T}'$), would become, approximately,

$$\sigma_{\hat{T}}^2 = \frac{1}{n} \left(T^2 + \frac{q^2}{12}\right) \quad . \qquad (32)$$

It is apparent that a one-year quantization interval would have negligible effect on sample size since, even for T = 1, $\sigma_{\hat{T}'}^2$ is increased by only 0.0833 over $\sigma_{\hat{T}'}^2$, which will increase the sample size by $1/3\ \Gamma^2$. For Γ as small as 0.10 year, this increase is only 33 items over the 400 that would already have been required.

C. Analysis of the R, NR, D Data

The system in current use in which each ILL request is simply categorized into routine, non-routine, and difficult requires analysis identical to that explained in regard to the fraction of documents in a given age category starting on page 2 of this report. In the R, NR, D system, only three intervals are involved so j = R, NR, D.

It was noted earlier that n min max for $Z_{\alpha/2} = 2$ and $L = 0.01$ was 10,000. Thus, with this change in the type of data to be obtained, high-precision estimates of the fraction of requested documents falling into each category can be obtained only for the composit sample involving all libraries. For a sample of 500, which is the sample size requested of each library, the best confidence intervals which can be predicted for the worst case of $f(j) = 1 - f(j) = 0.50$ are

$$F(j) \pm 2\sqrt{\frac{.5 \times .5}{500}} = F(j) \pm 0.045,$$

i.e., L will be in the neighborhood of 0.045. L will of course not exceed 0.045. This precision seems sufficient for the analysis being made.

APPENDIX 5

Letter to Resource Libraries from CAS Soliciting Participation in this Review

James L. Wood
Director of the Library

CHEMICAL ABSTRACTS SERVICE
A DIVISION OF THE AMERICAN CHEMICAL SOCIETY

Mr. John A. Doe
Librarian
Doe University
New York, New York 10018

Dear Mr. Doe:

Under contract to the United States Office of Education, our library is reviewing the availability of scientific and technical serials and conference proceedings volumes within the United States through a study of interlibrary loan transactions. This project has four major objectives of importance to participating libraries and their users: (1) to determine the availability of source documents in the country as a whole and in selected geographic areas of the country; (2) to ascertain how well interlibrary loans fulfill document requests; (3) to measure the need for, and uses of, a document back-up resource for local libraries needing to borrow chemical and chemical engineering literature; and (4) to project the results of this study to related disciplines.

One phase of this multiphase review is to determine the amount and effectiveness of interlibrary requesting. After reviewing innumerable studies describing interlibrary loan usage, we found none that were based on a national analysis of a broadly representative group of scientific and technical documents. Most earlier studies describe local or regional interlibrary loan activities. Therefore, we plan to conduct such a national study.

An intensive analysis of several hundred libraries enabled us to select a small but representative sample of libraries that we would like to have participate in this study. As the Doe University library was one of those selected, we should like to discuss the possibility of obtaining from you some of the data needed for this phase of the review. This would be done with minimum interruption to your daily work and would require little additional paperwork. Funds are available to reimburse your library for expenses incurred in providing this data.

THE OHIO STATE UNIVERSITY · COLUMBUS, OHIO 43210 · 614/293 5022

Specifically, we want to obtain a number of copies of the interlibrary and photocopy requests your library generates and receives. Our statistician believes that 500 interlibrary loan requests collected over a period of eight weeks will provide a valid sample to make several determinations. These will include:

1. The time required for one library to obtain materials from another.
2. The length of time recipient libraries require to process interlibrary and photocopy requests.
3. An indication of the clerical and professional effort expended in processing interlibrary and photocopy requests.
4. The bibliographic and document-locator tools used in the processing.
5. The effect of incomplete, incorrect, or garbled references on the fulfillment of the request.

If your library has maintained files of processed requests, we would also like to explore with you the possibility of our borrowing these files for a week or two or of our purchasing photocopies of pertinent records from the files. These files will be used to identify which scientific and technical serials and conference volumes are involved in interlibrary traffic, their ages, languages, and several other characteristics.

We want to begin collecting data as soon as possible. Much of the data we need will already be on the ALA Interlibrary Loan request forms or request letters you receive and generate. The additional data required can be added to the form or letter with minimum difficulty. We need to know:

1. The date your library received the request.
2. The degree of difficulty in filling a request as indicated by the following code:

   R = Routine; N = Non-routine; and D = Difficult.*

---

* For requests your library generates, only Items 2 and 4 need be added to the ALA form. Item 4 in these instances should be indicated under the word "Verified In."

3. If the request could not be fulfilled owing to faulty reference we would ask that this be noted on the form or letter as:

   I = Incomplete; N = Not Correct; G - Unintelligible or Garbled.

4. If you used a bibliographic or document locator tool in order to suggest that the borrower try another library, we need to know what union list, etc., was used to determine this. Codes to be used are: ULS = Union List of Serials; NST = New Serial Titles; NUC = National Union Catalog; CA = Chemical Abstracts List of Periodicals; or write the title of the union list that was used.*

5. If the request was filled with a microfilm or photoprint in lieu of loan of the original, circle which form was used, i.e., microfilm or photoprint.

We will guarantee the anonymity of any data collection source to insure the integrity of your relationships with your borrowers. A report of the results of this study will be provided for all participants.

Your willingness to supply interlibrary loan and photocopy request data to us is essential for the success of the study. May I arrange with you for either one of my staff librarians, or myself, to visit your library during December to more fully explain the project and to outline the necessary preparations to initiate data collection?

I look forward to your favorable reply.

Sincerely yours,

James L. Wood

JLW:bjw

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* For requests your library generates, only Items 2 and 4 would need be added to the ALA form. Item 4 in these instances should be indicated under the words "Verified In."

APPENDIX 6

Descriptions of Interlibrary Loan Request Samples Provided by 19 Resource Libraries

To expedite processing of interlibrary loan requests many libraries have decentralized this activity, assigning it to several interlibrary loan centers, e.g., the reference or circulation departments, branch or departmental libraries, or their photoduplication laboratory. In order to provide the most representative sample, the contract staff often arranged to obtain sample interlibrary loan requests from more than one center as shown in the following table.

Resource Library's Identification Code	Collection Centers	
	Characteristics Sample	Performance Sample
1	a) Reference Department b) Medical Library	a) Reference Department b) Medical Library
2	a) Reference Department b) Interlibrary Loan Department c) Photoduplication Laboratory	Interlibrary Loan Department (1)
3	a) Reference Department b) Medical Library c) Science Library d) Photoduplication	a) Reference Department b) Medical Library c) Science Library d) Photoduplication
4	Reference Department	Reference Department
5	Interlibrary Loan Department	Interlibrary Loan Department
6	Circulation Department	Circulation Department
7	a) Main Campus Library b) Health Center Library	a) Main Campus Library b) Health Center Library
8	a) Interlibrary Loan Department b) Science Library	a) Interlibrary Loan Department b) Engineering Library (2) c) Science Library
9	a) Interlibrary Loan Department b) Medical Library	a) Interlibrary Loan Department b) Medical Library
10	General Reference Department	General Reference Department

Resource Library's Identification Code	Collection Centers	
	Characteristics Sample	Performance Sample
11	a) Main Library b) Medical Library c) Dentistry Library	a) Main Library b) Medical Library c) Dentistry Library
12	Interlibrary Loan Department	Interlibrary Loan Department
13	a) Main Library b) Bio-Medical Library c) Agricultural Library	a) Main Library b) Bio-Medical Library c) Agricultural Library
14	a) Interlibrary Loan Department b) Photoduplication Laboratory (3)	Interlibrary Loan Department
15	Reference Department	Reference Department
16	a) Main Library b) Health Sciences Library	a) Main Library b) Health Sciences Library
17	Main Library (4)	a) Main Library b) Technology Library
18	Main Library (4)	a) Main Library b) Medical Library
19	a) Reference Department b) Photoduplication c) Bio-Medical Library	a) Reference Department b) Photoduplication c) Bio-Medical Library

(1) All performance sample interlibrary loan requests were obtained by means of this one source although they were processed by three centers.

(2) Records of processed interlibrary loan transactions are forwarded to the Interlibrary Loan Department for retention.

(3) Photoduplication Department maintains files of all interlibrary loan requests filled with photocopies or microfilms.

(4) Main Library retains files of all processed interlibrary loan requests.

APPENDIX 7

Descriptions of Data Analysis Reports

From a review of the study objectives, a series of nine broad search questions was derived. To permit answers to these questions 43 data analysis reports were designed. The relationships of objectives to questions and questions to reports is presented in this Appendix. The source files from which data was drawn and the report generation process for each report is also given. A system description and information flow charts are shown in Appendix 10, while descriptions of the computer programs used to obtain these reports are given in Appendix 11.

OBJECTIVE I

To determine, for the United States as a whole and for selected geographic regions within the United States, what portion of already identified chemical and chemical engineering serials and conference proceedings documents are available in the collections of major resource libraries, using ACCESS-1969 for comparison. Using data furnished to CAS by some 325 libraries, CAS staff examined the holdings data to determine the presence or absence of titles in the libraries' collections and the extent of holdings of both current and back issues. This phase of the study provided data concerning documents available for on-the-spot use by the libraries' clientele and those available for fulfilling interlibrary loan requests or orders for photocopies or microforms.

QUESTION A

Are the serials and non-serials included in the CAS ACCESS available from U. S. libraries?

Report 1*

Title - Listing by OE region and state showing number and percent of titles in ACCESS that are completely held, partially held, and not held.

Source - ACCESS Master File

Processes -

a. For each CODEN in ACCESS, determine the holdings for each state by combining the holdings of all libraries in that state.

b. Compare the combined holdings for the state with the beginning year and ending year fields in ACCESS history data to determine if holdings are complete or partial.

c. When all CODEN in ACCESS have been examined, for each state determine the number of CODEN held completely, partially, and not held, and the percentage of the total number of CODEN in ACCESS for each.

d. Determine the regional/national totals exactly as in a, b, c replacing the word state by region/nation at each occurrence.

---

*Report number as shown in Appendix 10

Report 2

Title - List of titles for which no holdings are shown in ACCESS. (Includes both absence of any holdings for a title and gaps in holdings for a title.)

Source - ACCESS Master File

Processes -

a. For each CODEN in ACCESS determine the combined holdings of all states.

b. Compare the combined holdings for the nation with the beginning year and ending year fields in ACCESS history data to determine whether holdings are complete.

c. Include only titles for which there are no holdings or partial holdings in the report.

OBJECTIVE II

To determine the effectiveness of interlibrary borrowing and facsimile procurement in supplying users with documents not available to them from their local libraries. This phase of the study, which was based on samples of data supplied by 19 major U. S. resource libraries, identified the serials and congress proceedings volumes that were needed by the clientele but were not available from their local libraries.

QUESTION A

What are the characteristics of the scientific and technical serials and conference proceedings volumes involved in interlibrary traffic?

Report 11

Title - Listing of serials or conference proceedings volumes showing age distribution pattern by surveyed library with overall total listings and by resource library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have either as borrowing library or lending library one of the 19 resource libraries.

b. Requests received by a given library correspond to those records with that library as the lending library. Requests sent by a given library are those with the given library as borrowing library.

c. Determine age of item requested from the last three digits of publication date.

Report 12

Title - Relationship between age and length of requested items by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have either as borrowing library or as lending library one of the 19 resource libraries.

b. Determine age of item requested from the last three digits of publication date.

c. Determine length of article from number of first page and number of last page.

Report 13

Title - Relationship between age and language of requested items by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have either as borrowing library or as lending library one of the 19 resource libraries.

b. Determine age of item requested from the last three digits of publication date.

c. Determine language from language of article code and expand code to meaningful abbreviations.

Report 14

Title - Relationship between age and level of processing effort by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have either as borrowing library or as lending library one of the 19 resource libraries and which have specified the request difficulty code.

b. Determine age of item requested from the last three digits of publication date.

c. Determine degree of effort from request difficulty code.

Report 15

Title - Relationship between age and validity of requestor's citation--by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only records which have either as borrowing library or as lending library one of the 19 resource libraries.

b. Determine age of item from the last three digits of publication date.

c. Determine validity of citation from faulty reference code.

N.B. The letter "X" indicates an invalid citation. A dash "-" indicates either a valid citation or a no indication that the citation is invalid.

Report 16

Title - Relationship between age and fulfillment media (microfilm, photocopy, original)--by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have either as borrowing library or as lending library one of the 19 resource libraries.

b. Determine age of item from the last three digits of publication date.

c. Determine fulfillment media from codes:

M = Microfilm
P = Photocopy
O = Original
The absence of M, P, or O in this element means the medium was unknown. Tabulate these also.

Report 17

Title - Relationship between age and reason for non-fulfillment of requested item--by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have either as borrowing library or as lending library one of the 19 resource libraries.

b. Determine age of the item from the last three digits of publication date.

c. Determine reason of non-fulfillment by presence of one of the characters listed below:

A, B, C, D, F, H, K, M, N, O, P, Q, T, U, V, X.

Report 18

Title - Relationship between age and number of days of internal processing times for requests processed by the surveyed libraries.

Source - Interlibrary Loan File

Processes -

a. Consider only records which have as the lending library one of the 19 resource libraries.

b. Determine age of the item from the last three digits of publication date.

c. Determine processing time by subtracting date lending library received the request from date of fulfillment or notification of non-fulfillment.

QUESTION B

What are the characteristics of interlibrary request traffic flow?

Report 19

Title - Traffic flow for filled requests between surveyed libraries and borrowing libraries by state.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have M, P, or O in the fulfillment mode code.

b. Determine region and state for library generating request.

c. Determine region and state for library receiving request.

Report 20

Title - Traffic flow for unfilled requests between surveyed libraries and borrowing libraries by state.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which do not have M, P, or O specified in the fulfillment mode code.

b. Determine region and state for library generating request.

c. Determine region and state for library receiving request.

Report 21

Title - Request transmittal time between borrowing libraries by state and surveyed libraries for mail requests.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified media used to transmit the request.

b. Determine lapse time from date of request and date lending library received request.

c. Determine region and state for library generating request.

d. Determine region and state for library receiving request. Note that the report is in 9 parts, one for each OE region.

Report 22

Title - Number of requests that are for the same item for the same person.

Source - Interlibrary Loan File

Processes -

a. A given journal will not appear in this report unless there are at least two records for a given journal which are identical for publication date, volume number, issue number, page numbers, and requestor identification.

b. An entry in a column of the table indicates the number of distinct requests repeated the number of times indicated in the heading, for the specified journal.

(For example, in the printer spacing chart for report 22, the number 3 appearing in the column headed by the number 8 indicates that there were 3 distinct requests, each repeated 8 times, for journal ABFCA, date 1006966, volume 1086, issue 1004, beginning page 1206.)

QUESTION C

Are there variations in the characteristics of interlibrary request generated in the different geographical areas of the U. S.?

Report 23

Title - Internal processing time at surveyed libraries for filled requests by state in which the borrowing library is located.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and fulfillment mode code.

b. Determine state and region of the borrowing library.

c. Determine time lapse from date lending library received request and date lending library filled request.

Report 24

Title - Internal processing time at surveyed libraries for unfilled requests by state in which borrowing library is located.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and non-fulfillment reason.

b. Determine state and region of the borrowing library.

c. Determine time lapse from date lending library received request and date of notification of non-fulfillment.

Report 25

Title - Age of items requested from surveyed libraries by state in which borrowing library is located.

Source - Interlibrary Loan File

Processes -

a. Consider every Interlibrary Loan record.

b. Determine state and region of the borrowing library.

c. Determine age of item requested from last three digits of publication date.

Report 26

Title - Form of request (letter, ALA, TWX, etc.) received by surveyed libraries by state in which borrowing library is located.

Source - Interlibrary Loan File

Processes -

a. Consider every Interlibrary Loan record.

b. Determine state and region of the borrowing library.

c. Determine form in which request is received.

Report 27

Title - Fulfillment effort required by surveyed library by state in which borrowing library is located.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified request difficulty code R, N, or D.

b. Eliminate any for which the lending library is not one of the 19 resource libraries.

c. Determine state and region of the borrowing library.

d. Determine fulfillment effort from request difficulty code.

QUESTION D

What are the relationships between the various characteristics of filled interlibrary requests and the time (in days) required by the surveyed library to process the request.

Report 28

Title - The length of the requested item compared to internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and fulfillment mode code, and whose lending library is one of the 19 resource libraries.

b. Determine length of article from number of first page to number of last page.

c. Determine time lapse from date lending library received request and the date lending library filled request.

Report 29

Title - The language of requested item compared to internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and fulfillment mode code and whose lending library is one of the 19 resource libraries.

b. Determine language from language of article.

c. Determine time lapse from date lending library received request and date lending library filled request.

Report 30

Title - The effect of citation verification on internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and fulfillment mode code, and whose lending library is one of the 19 resource libraries.

b. Determine whether citation was verified by examining citation verification code.

c. Determine time lapse from date lending library received request and date lending library filled request.

Report 31

Title - The level of effort required compared to internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and fulfillment mode code, and whose lending library is one of the 19 resource libraries.

b. Determine degree of effort by examining request difficulty code.

c. Determine time lapse from date lending library received request and date lending library filled request.

Report 32

Title - The effect of invalid as compared to valid citations on internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and fulfillment mode code, and whose lending library is one of the 19 resource libraries.

b. Determine whether reference was faulty by examining the faulty reference code.

c. Determine time lapse from date lending library received request and date lending library filled request.

Report 33

Title - Relationship of fulfillment media (microfilm, original, photocopy) used on internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and fulfillment mode code and whose lending library is one of the 19 resource libraries.

b. Determine how request was filled by examining fulfillment mode code.

c. Determine time lapse from date lending library received request and date lending library filled request.

Report 34

Title - Effect of multiple item requests on internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and fulfillment mode code and whose lending library is one of the 19 resource libraries.

b. Determine number of items in request by examining the last two digits of multiple order code. If the code is missing, assume 01.

c. Determine time lapse from date lending library received request and date lending library filled request.

Report 35

Title - Relationship of request form (letter, ALA form, TWX, etc.) on internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and fulfillment mode code and whose lending library is one of the 19 resource libraries.

b. Determine form in which request was received by examining form of request.

c. Determine time lapse from date lending library received request and date lending library filled request.

QUESTION E

What are the relationships between the various characteristics of unfilled interlibrary requests and the time in days required by the surveyed library to process a request?

Report 36

Title - The length of the requested item compared to internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and non-fulfillment reason and whose lending library is one of the 19 resource libraries.

b. Determine length of article from number of first page to number of last page.

c. Determine time lapse from date lending library received request and date of notification of non-fulfillment.

Report 37

Title - The language of the requested item compared to internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and non-fulfillment reason and whose lending library is one of the 19 resource libraries.

b. Determine language from language of article.

c. Determine time lapse from date lending library received request and date of notification of non-fulfillment.

Report 38

Title - The effect of citation verification on internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and non-fulfillment reason and whose lending library is one of the 19 resource libraries.

b. Determine whether citation was verified by examining citation verification code.

c. Determine time lapse from date lending library received request and date of notification of non-fulfillment.

Report 39

Title - The level of effort required compared to internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and non-fulfillment reason and whose lending library is one of the 19 resource libraries.

b. Determine if reference was faulty by examining the faulty reference code.

c. Determine time lapse from date lending library received request and date of notification of non-fulfillment.

Report 40

Title - The effect of invalid citations on processing time.

Source - Interlibrary Loan File

Processes -

a. Consider only records which have specified both request difficulty code and invalid citation code and whose lending library is one of the 19 resource libraries.

b. Determine time lapse from date lending library received the request and date of fulfillment or notification of non-fulfillment.

Report 41

Title - The relationship between reasons for non-fulfillment and internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and non-fulfillment reason and whose lending library is one of 19 resource libraries.

b. Determine non-fulfillment reason.

c. Determine time lapse from date lending library received request and date of notification of non-fulfillment.

Report 42

Title -- Effect of multiple item requests on internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and non-fulfillment reason and whose lending library is one of the 19 resource libraries.

b. Determine number of items in request by examining the last two digits of the multiple order code. If the code is missing, assume 01.

c. Determine time lapse from date lending library received request and date of notification of non-fulfillment.

Report 43

Title - Relationship of request form (letter, ALA form, TWX, etc.) on internal processing time, by surveyed library.

Source - Interlibrary Loan File

Processes -

a. Consider only Interlibrary Loan records which have specified both request difficulty code and non-fulfillment reason and whose lending library is one of the 19 resource libraries.

b. Determine form in which request was received by examining form of request.

c. Determine time lapse from date lending library received request and date of notification of non-fulfillment.

OBJECTIVE III

To study whether users' requests for source documents could be better satisfied if the CAS library collection were accessible as a back-up resource service for libraries in meeting requests received by them. Heretofore, this document collection has not been made available to the public on a current basis, but has been distributed instead to selected libraries at the end of the five- or ten-year periods corresponding with the end of CA indexing periods. Moreover, the collection has not been made publicly available as a single unit, but has been scattered at many libraries throughout the country.

QUESTION A

Are the serials and conference proceedings volumes held by CAS (since 1956) needed as back-up for the present "interlibrary loan" network?

Report 10

Title - Listing of serials held by CAS that were not available from surveyed library receiving interlibrary request or if available could not be furnished to requestee either at all or within a satisfactory period of time.

Source - Interlibrary Loan File
Applicability File

Processes -

a. Consider only Interlibrary Loan records which have as lending library one of the 19 resource libraries.

b. Consider only Interlibrary Loan records which specify either non-fulfillment reason or date of notification of non-fulfillment or for which the time lapse between date lending library received request and date lending library filled request exceeds 10.

c. Determine status in CAS library as follows:

  i. If publication date indicates year 1955 or earlier, enter in "pre-1956" column.

  ii. If publication date is 1956 or later, enter in "YES POST 1956" if and only if the Applicability

File contains the CODEN and notation that serial is held. Otherwise enter in "NOT HELD" column.

d. Determine region where request originated.

e. The report is to be printed in abbreviated journal title sequence.

OBJECTIVE IV

To determine the relevance or applicability of this study to the serial literature of other fields of science and technology by reviewing the degree of overlap with journals. The CAS staff compared the overlap of journals included in ACCESS with those included in other secondary serials and noted the significant differences between the availability of the core literature of chemistry and chemical engineering and that of other disciplines.

QUESTION A

Are the findings of this study applicable to scientific and technical disciplines other than chemistry and chemical engineering as reflected in the overlap that exists between lists of serial literature already established for chemistry and chemical engineering and lists of serials for these other related disciplines?

Report 3

Title - List of core serial titles with their U. S. availability by region and by state.

Source - ACCESS File
Applicability File

Processes -

a. Consider only CODEN which have indicated in the Applicability File one or more of the core list interest codes.

b. Process exactly as for Report 1.

Report 4

Title - Listing of the number of titles applicable to the general scientific and technical and specific discipline lists reviewed.

Source - Applicability File

Processes -

a. For each record on the Applicability File, count the number of interest codes indicated from the general list, the core list, and the combined total.

b. An entry in the report indicates the number of different titles having the specified number of interest codes. For example, an entry of 236 in the row with number 13 in the left column indicates that there are 235 CODEN which have exactly 13 interest codes each.

Report 5

Title - Listing of current serial titles applicable to scientific and technical in general and specific disciplines showing overlap with current titles in ACCESS.

Source - Applicability File
CODEN vs. Abbreviated Journal Title File

Processes -

a. Consider only applicability file records which have indicated one or more of the general list interest codes.

b. Retrieve abbreviated journal title from the CODEN vs. Abbreviated Journal Title file.

c. The report is to be printed in descending order based on the total number of general list interest codes indicated.

Report 6

Title - Listing of current "core" serial titles (considered to be most important to other scientific and technical disciplines) showing overlap with current titles in ACCESS.

Source - Applicability File
CODEN vs. Abbreviated Journal Title File

Processes -

a. Consider only applicability file records which have indicated one or more of the core list interest codes.

b. Retrieve abbreviated journal title from the CODEN vs. Abbreviated Journal Title file.

c. The report is to be printed in descending order based on the total number of core list interest codes indicated.

QUESTION B

Are existing lists of chemical and chemical engineering serial literature applicable to scientific and technical disciplines other than chemistry and chemical engineering as reflected by the relationship of the serial and conference proceedings volumes they contain and those that make up the interlibrary loan traffic?

Report 7

Title - Unfilled interlibrary requests for which location data is included in ACCESS.

Source - Interlibrary Loan File
ACCESS Holdings Data

Processes -

a. Consider only Interlibrary Loan records which specify either non-fulfillment reason or date of notification of non-fulfillment.

b. Consider only Interlibrary Loan records which have a CODEN which has library holdings data included in the ACCESS file.

c. Determine year from publication date and volume and issue from volume number and issue number respectively.

Report 8

Title - Unfilled interlibrary requests for which no location data is included in ACCESS.

Source - Interlibrary Loan File
ACCESS Holdings Data

Processes -

a. Consider only Interlibrary Loan records which specify either non-fulfillment reason or date of notification of non-fulfillment.

b. Consider only Interlibrary Loan records which have a CODEN included in the ACCESS file but for which no library holdings data is included.

c. Determine year from publication date and volume and issue from volume number and issue number respectively.

Report 9

Title - Unfilled interlibrary requests for which no entry for the serial is in ACCESS.

Source - Interlibrary Loan File
ACCESS Holdings Data

Processes -

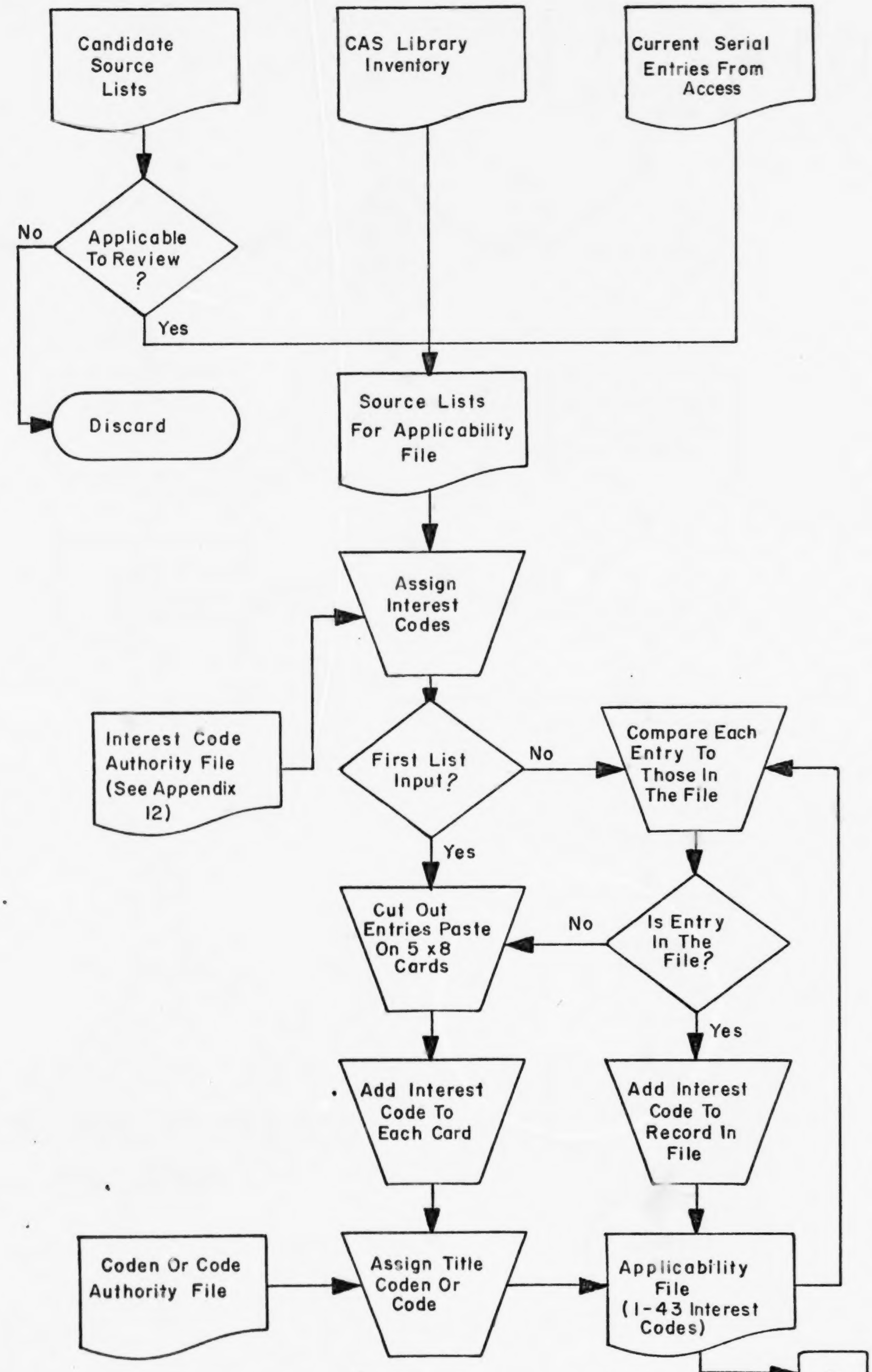
a. Consider only Interlibrary Loan records which specify either non-fulfillment reason or date of notification of non-fulfillment.

b. Consider only records which have a CODEN not found on the ACCESS file.

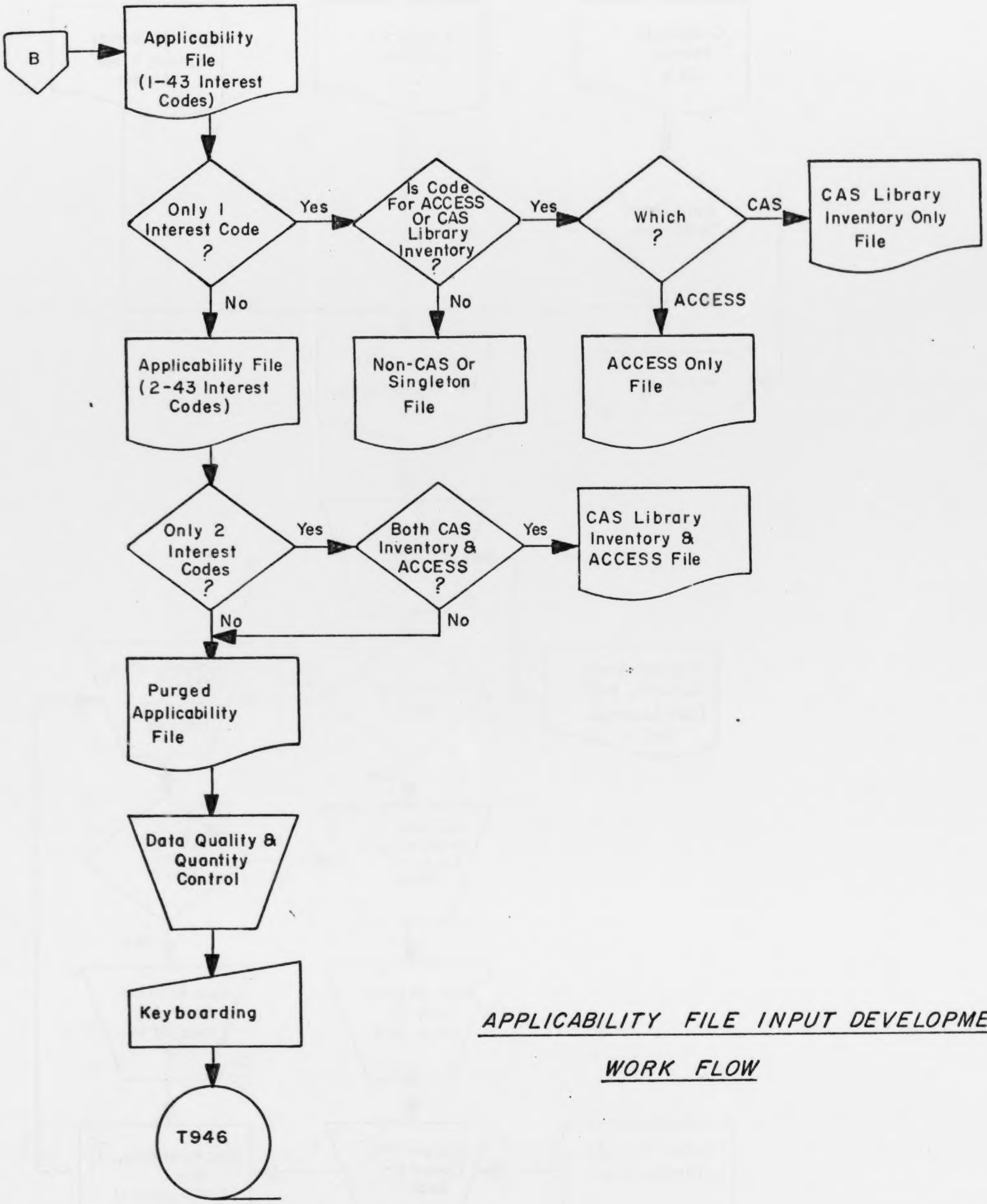
c. Determine year from publication date and volume and issue from volume number and issue number.

Appendix 8
Applicability File Input Development Work Flow

I. APPLICABILITY FILE DATA COLLECTION FORM GENERATION


Candidate Source Lists
CAS Library Inventory
Current Serial Entries From Access
Applicable To Review ?
No
Yes
Discard
Source Lists For Applicability File
Assign Interest Codes
Interest Code Authority File (See Appendix 12)
First List Input?
No
Yes
Compare Each Entry To Those In The File
Is Entry In The File?
No
Yes
Cut Out Entries Paste On 5 x 8 Cards
Add Interest Code To Each Card
Add Interest Code To Record In File
Coden Or Code Authority File
Assign Title Coden Or Code
Applicability File (1-43 Interest Codes)
B

II. APPLICABILITY FILE WEEDING PROCEDURE

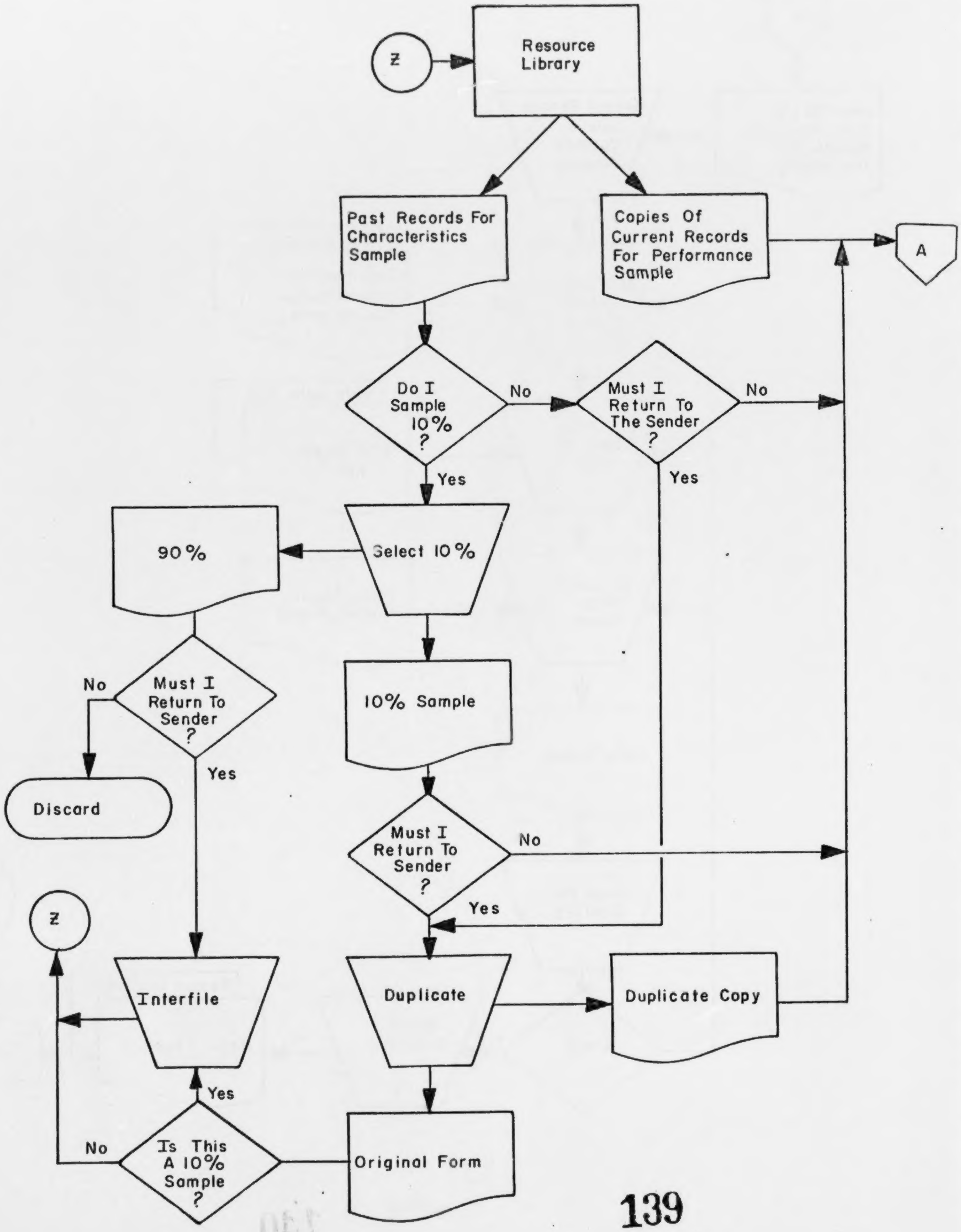

B
Applicability File (1-43 Interest Codes)
Only 1 Interest Code ?
Yes
Is Code For ACCESS Or CAS Library Inventory ?
Yes
Which ?
CAS
CAS Library Inventory Only File
ACCESS
ACCESS Only File
No
Non-CAS Or Singleton File
No
Applicability File (2-43 Interest Codes)
Only 2 Interest Codes ?
Yes
Both CAS Inventory & ACCESS ?
Yes
CAS Library Inventory & ACCESS File
No
No
Purged Applicability File
Data Quality & Quantity Control
Keyboarding
T946

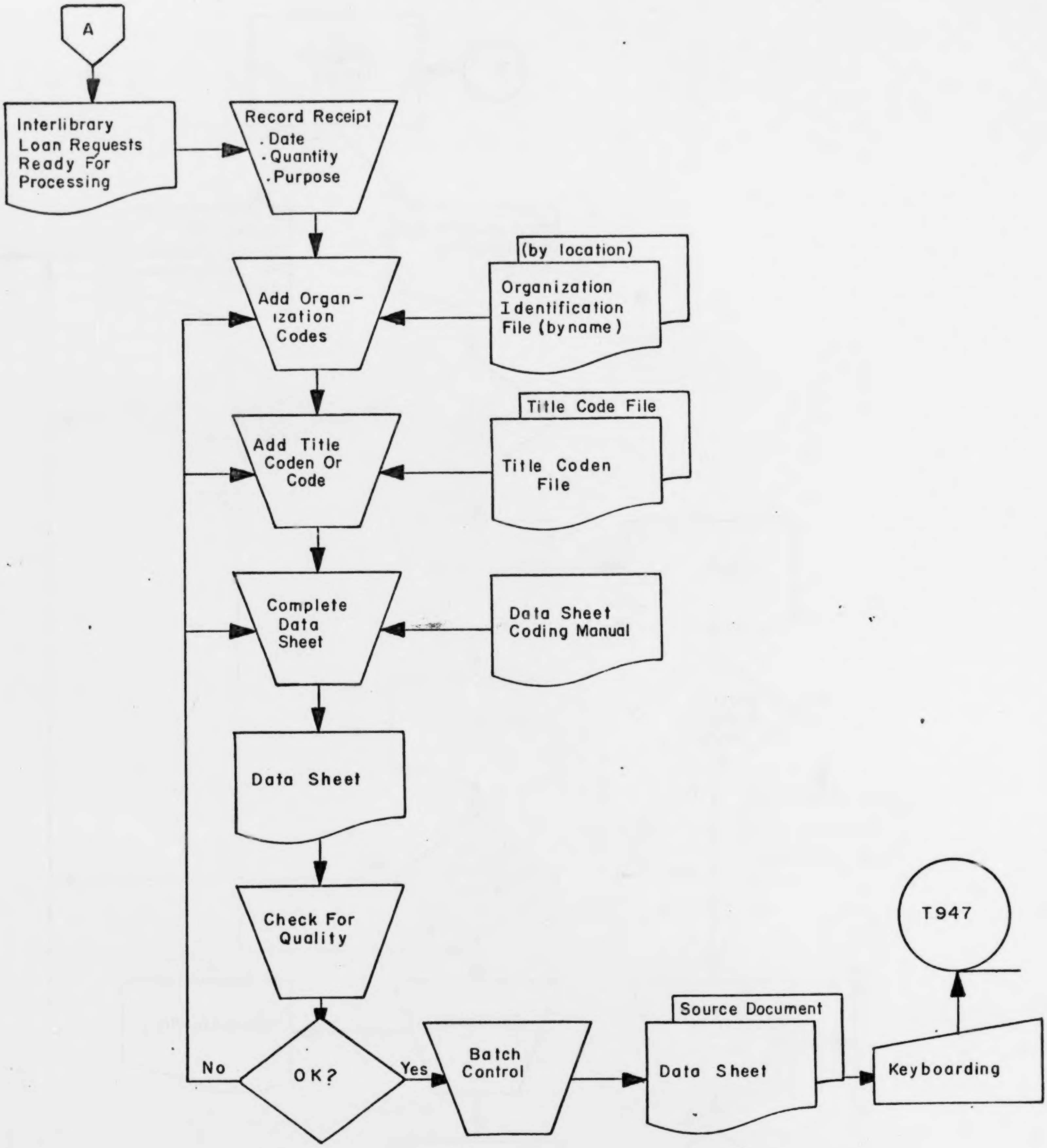
APPLICABILITY FILE INPUT DEVELOPMENT WORK FLOW

APPENDIX 9

INTERLIBRARY LOAN FILE INPUT DEVELOPMENT

WORK FLOW


Z
Resource Library
Past Records For Characteristics Sample
Copies Of Current Records For Performance Sample
A
Do I Sample 10% ?
No
Must I Return To The Sender ?
No
Yes
Yes
90%
Select 10%
10% Sample
Must I Return To Sender ?
No
Yes
Discard
Must I Return To Sender ?
No
Yes
Z
Interfile
Duplicate
Duplicate Copy
Yes
No
Is This A 10% Sample ?
Original Form


A
Interlibrary Loan Requests Ready For Processing
Record Receipt
. Date
. Quantity
. Purpose
(by location)
Organization Identification File (byname)
Add Organ- ization Codes
Title Code File
Title Coden File
Add Title Coden Or Code
Data Sheet Coding Manual
Complete Data Sheet
Data Sheet
Check For Quality
No
OK?
Yes
Batch Control
Source Document
Data Sheet
Keyboarding
T947

APPENDIX 10

CHEMICAL ABSTRACTS SERVICE
SYSTEMS DEVELOPMENT DEPARTMENT

U. S. Office of Education Contract System Description and Information Flow

December, 1967

I. SYSTEM DESCRIPTION

A. Goals

The intent of this system is to aid the CAS library staff in answering several questions posed in our contract with the United States Office of Education. These questions are concerned with the characteristics of the interlibrary loan network and the availability of documents represented in the ACCESS data base. Data has been gathered from nineteen libraries cooperating in the study, and this material will be used in conjunction with existing data files to generate a series of some 43 reports designed by our library to provide the necessary answers.

B. Functions Performed

1. The manual files needed for the reports will be converted to machine readable form by keyboarding directly onto magnetic tape using either Mohawk 1101 or 1181 devices, depending on availability.
2. Keyboarded data will be computer edited and listed with errors in content and format detected by the computer programs identified. These errors and any others noted during manual checking will be corrected and rekeyboarded.
3. When the files are complete and all corrections have been made, the reports will be tabulated and printed. Any subset of reports may be requested.

C. Functions Not Performed

1. Correction capability will be available for both data files created expressly for this application. If errors are detected in the printed reports, they can be corrected only by correcting the files and regenerating the desired reports.
2. No general functions other than those mentioned in B above have been included in the system design.

D. Changes to Current Operations

1. None

II. INFORMATION FLOW

The system breaks into three logically separate units.

A. Build Applicability File

1. The Applicability File consisting of approximately 23,000 5"x8" cards is sent from the library to the keyboarding area.
2. Selected data is keyboarded from the cards and from corrected proof listings created from previously completed Applicability File keyboarding.
3. The keyboarded data is computer checked for errors in content and format. All input is listed for manual proofing with errors clearly flagged. Material passing the edit check is formated. into CAS standard file format records and written on a magnetic tape.
4. The computer printed proof listings are compared with the keyboard source documents and corrections marked as required. The corrected listings are submitted for rekeyboarding.
5. The formated data which passed the edit checks is sorted into sequence by CODEN.
6. The sorted records are merged into the master Applicability File.

B. Build Interlibrary Loan File (ILL)

1. The Interlibrary Loan study file consisting of 70,000 8 1/2x11" sheets is sent from the library to the keyboarding area. Each sheet is the record of one interlibrary loan request.

3. The keyboarded data is computer checked for errors in content and format. All input is listed for manual proofing with errors clearly flagged. All material (including that failing edit checks) is formated into CAS standard file format records and written on magnetic tape.

4. The computer printed proof listings are compared with the keyboard source documents and corrections marked as required. The corrected listings are submitted for rekeyboarding.

5. The formated data records are sorted into sequence by batch number and sheet number.

6. The sorted records are merged into the master Interlibrary Loan file.

7. When all data sheets have been entered and corrected, the file is sorted into sequence by CODEN, volume, issue, page numbers, and name of individual requesting the interlibrary loan.

C. Generate Reports

When the file building is completed, report data will be selected, tabulated, sorted if necessary, and listed. The reports are broken into four sets as shown in the following charts. Within each set it may or may not be possible to process all reports in a single computer run. If not, the best choice of combinations to minimize the number of computer runs required cannot be made until the storage requirements for each of the selection and formating modules is known. The following processes are common to all the report generation sections.

1. A parameter card is read indicating (with X's in appropriate colums) which reports are to be generated.

2. The files are passed and the required data selected and calculated.

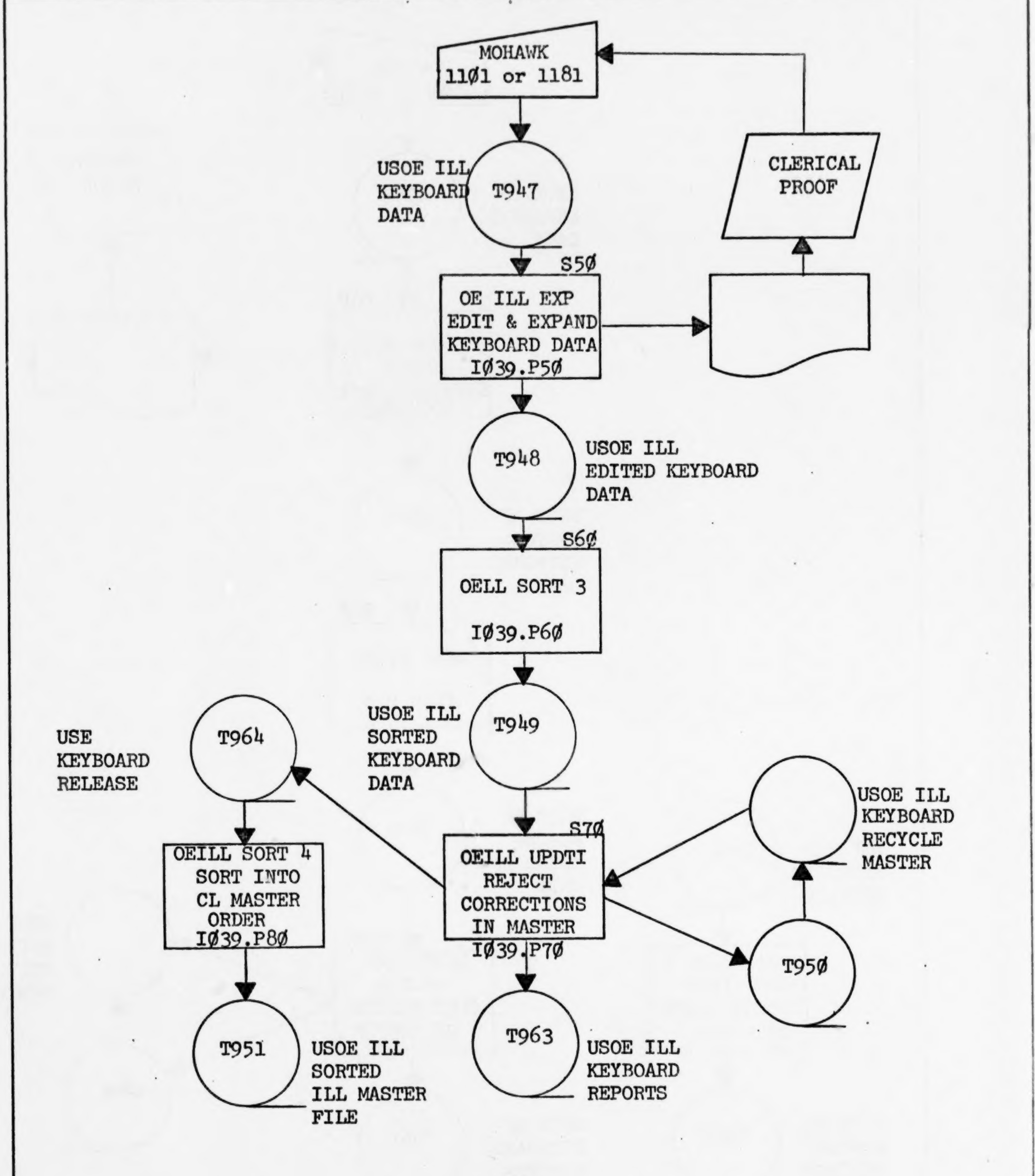
3. If the report does not require sorting it is listed directly. Otherwise, print records with required sortkey information is written on magnetic tape.

4. Report data requiring sorting is sorted and listed using a standard list utility program.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

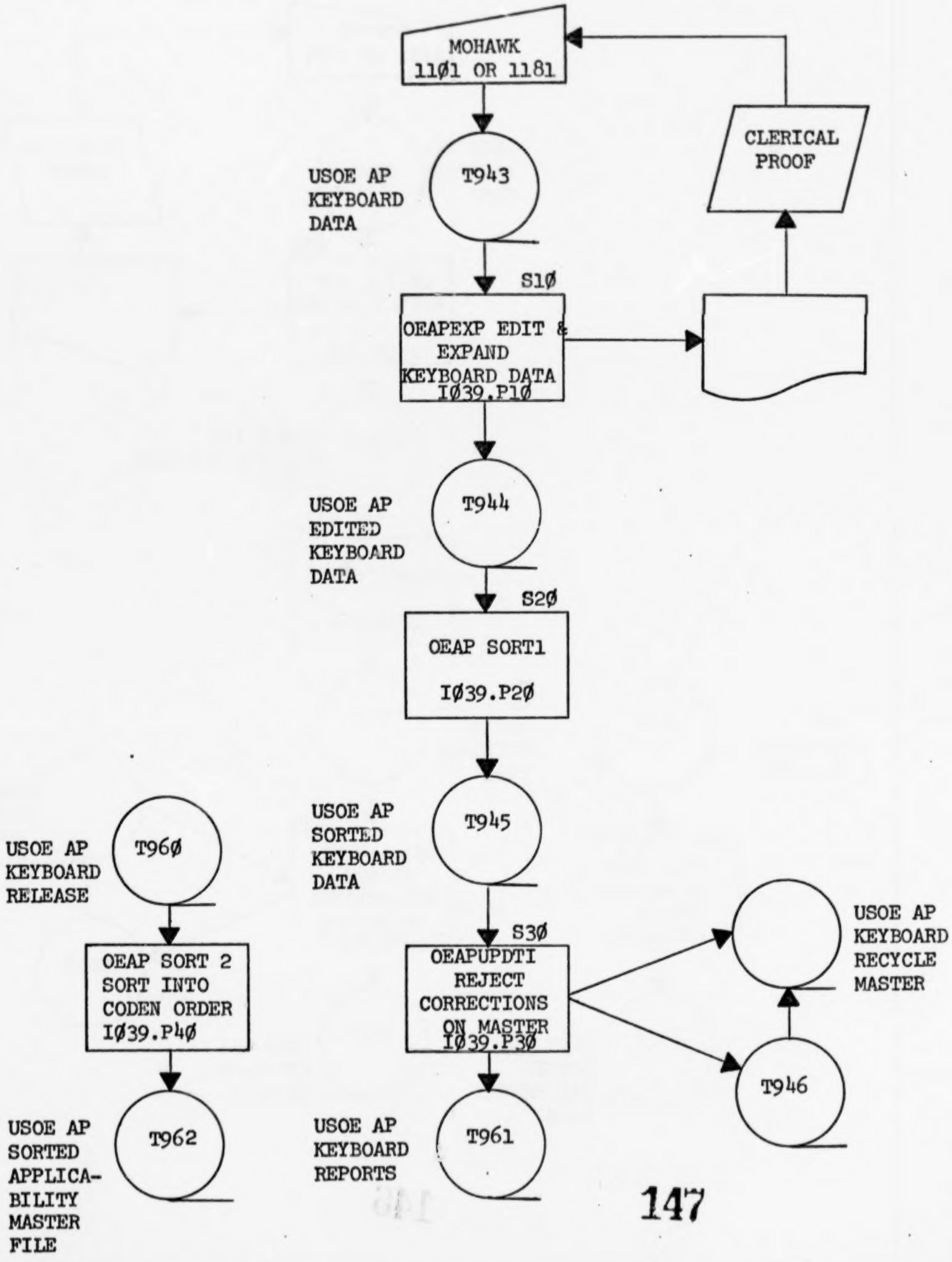
NAME System Program Module Macro	U.S.O.E. REPORTS	ID System Program Module Macro	
TOPIC	Flow Chart of the Creation of the Interlibrary Loan Master File	PAGE	1


MOHAWK
1101 or 1181
CLERICAL PROOF
USOE ILL KEYBOARD DATA
T947
S50
OE ILL EXP
EDIT & EXPAND KEYBOARD DATA
I039.P50
T948
USOE ILL EDITED KEYBOARD DATA
S60
OELL SORT 3
I039.P60
USOE ILL SORTED KEYBOARD DATA
T949
USE KEYBOARD RELEASE
T964
S70
OEILL UPDTI
REJECT CORRECTIONS IN MASTER
I039.P70
USOE ILL KEYBOARD RECYCLE MASTER
OEILL SORT 4
SORT INTO CL MASTER ORDER
I039.P80
T950
T951
USOE ILL SORTED ILL MASTER FILE
T963
USOE ILL KEYBOARD REPORTS

NAME
System U.S.O.E. REPORTS
Program
Module
Macro

ID
System
Program
Module
Macro

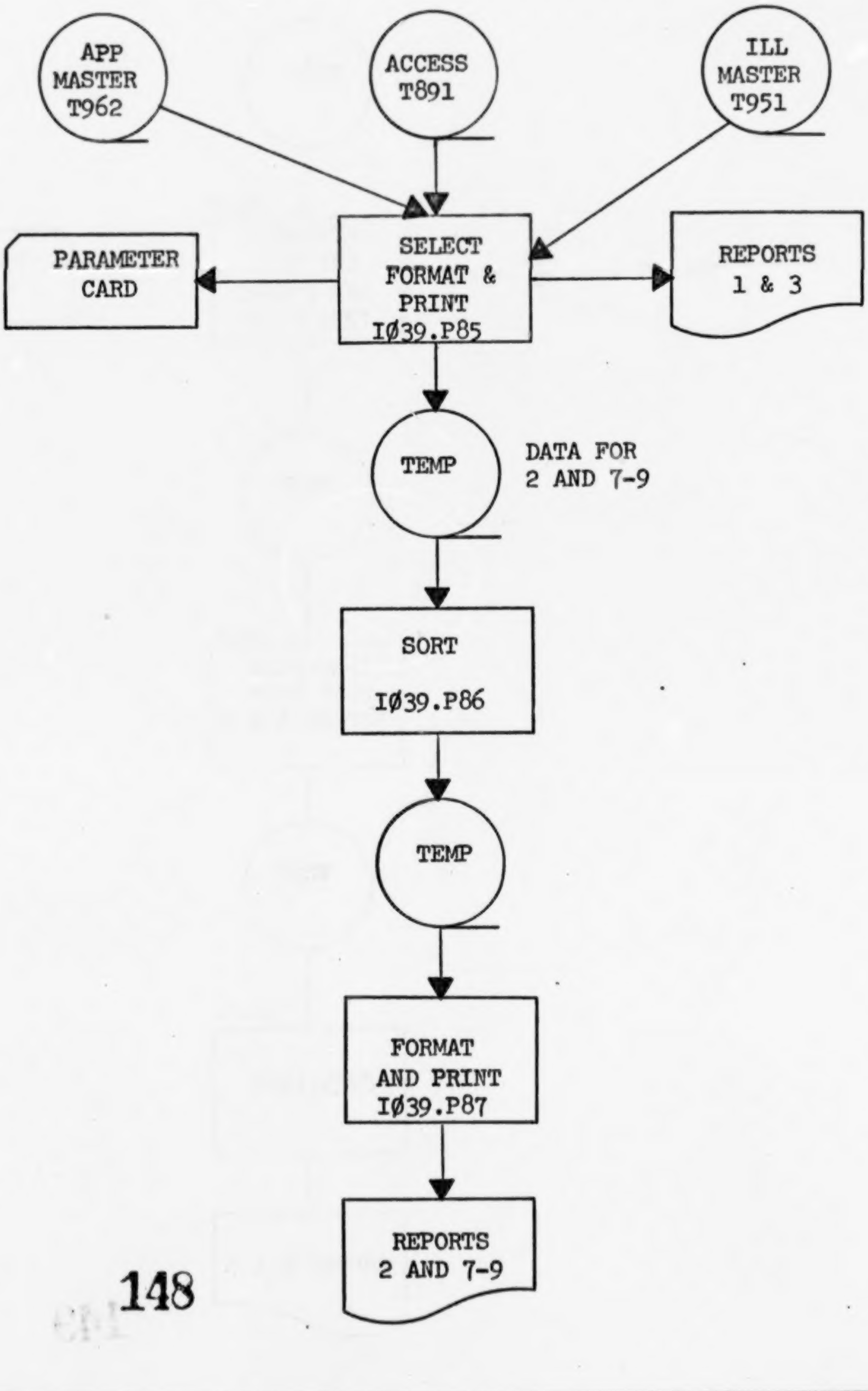
TOPIC Flow Chart of the Creation of the Applicability Master File


MOHAWK
1101 OR 1181
CLERICAL PROOF
USOE AP KEYBOARD DATA
T943
S10
OEAPEXP EDIT & EXPAND KEYBOARD DATA
I039.P10
USOE AP EDITED KEYBOARD DATA
T944
S20
OEAP SORT1
I039.P20
USOE AP SORTED KEYBOARD DATA
T945
S30
OEAPUPDTI REJECT CORRECTIONS ON MASTER
I039.P30
USOE AP KEYBOARD RECYCLE MASTER
T946
USOE AP KEYBOARD REPORTS
T961
USOE AP KEYBOARD RELEASE
T960
OEAP SORT 2 SORT INTO CODEN ORDER
I039.P40
USOE AP SORTED APPLICABILITY MASTER FILE
T962

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

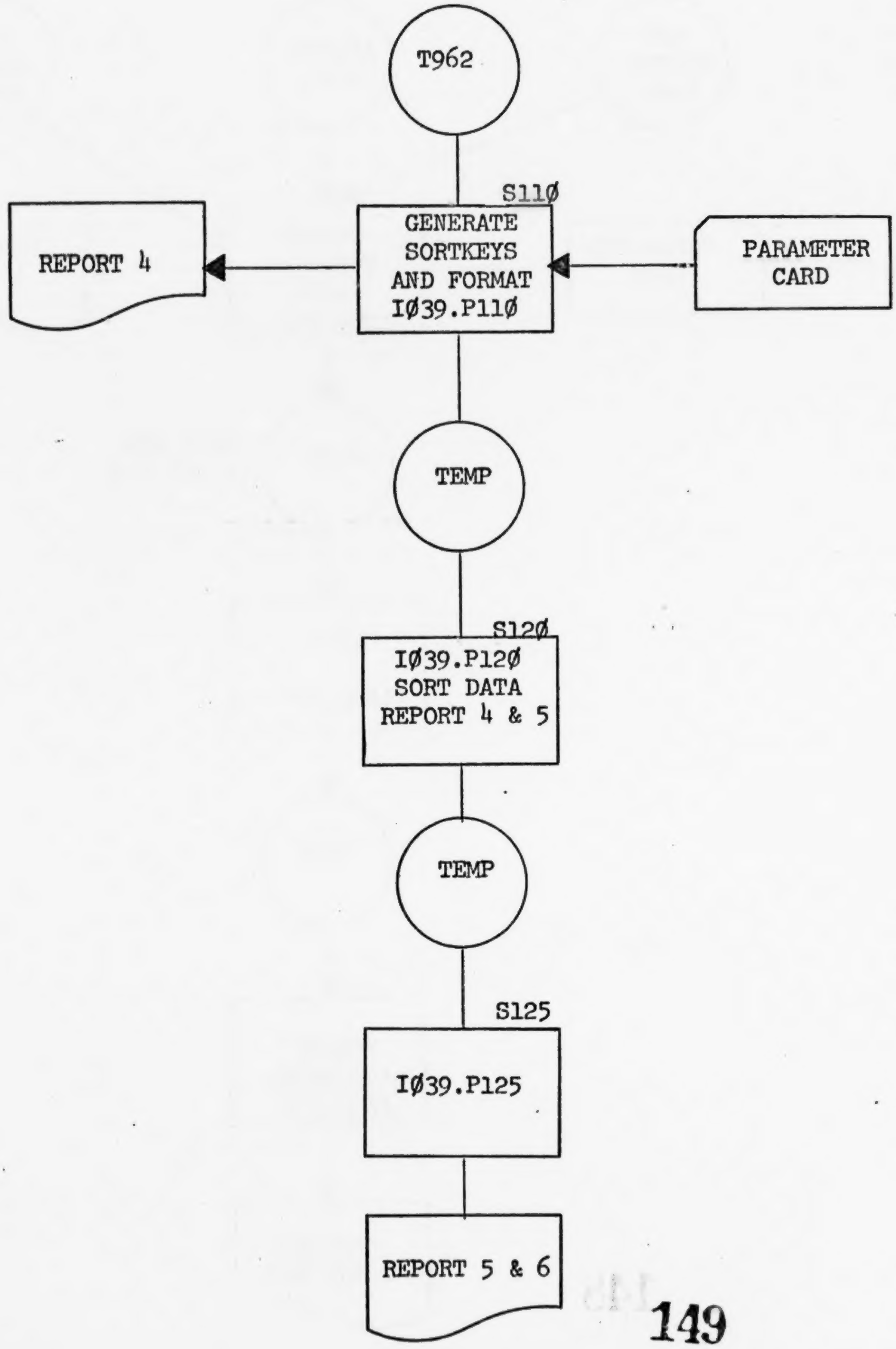
NAME		ID	
System	U.S.O.E. REPORTS 1,2,3,7,8,9	System	
Program		Program	
Module		Module	
Macro		Macro	
TOPIC	Flow Chart for the Creation of Reports 1,2,3,7,8,9	PAGE	3


APP MASTER T962
ACCESS T891
ILL MASTER T951
PARAMETER CARD
SELECT FORMAT & PRINT I039.P85
REPORTS 1 & 3
TEMP
DATA FOR 2 AND 7-9
SORT I039.P86
TEMP
FORMAT AND PRINT I039.P87
REPORTS 2 AND 7-9

NAME
System U.S.O.E. REPORTS 4,5,6
Program
Module
Macro

ID
System
Program
Module
Macro

TOPIC Flow Chart for the Creation of Reports 4,5,6


T962
S110
GENERATE SORTKEYS AND FORMAT I039.P110
REPORT 4
PARAMETER CARD
TEMP
S120
I039.P120 SORT DATA REPORT 4 & 5
TEMP
S125
I039.P125
REPORT 5 & 6

CHEMICAL ABSTRACTS SERVICE
Systems Development

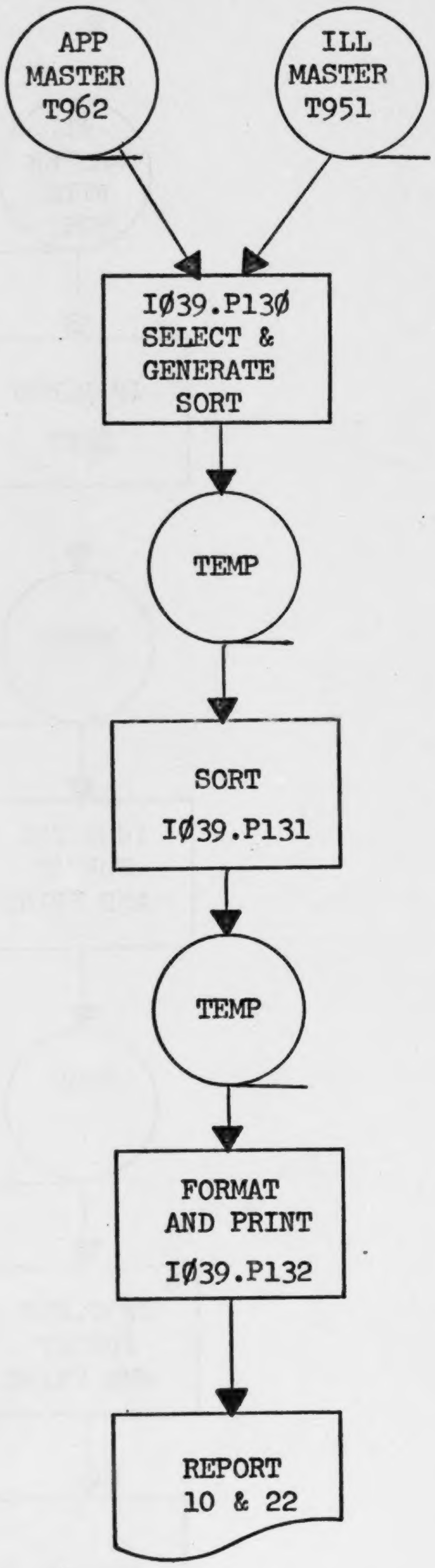
DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 10, 22
Program
Module
Macro

TOPIC Flow Chart for the Creation of Reports 10, 22

ID
System
Program
Module
Macro

PAGE 5


APP MASTER T962
ILL MASTER T951
I039.P130 SELECT & GENERATE SORT
TEMP
SORT I039.P131
TEMP
FORMAT AND PRINT I039.P132
REPORT 10 & 22

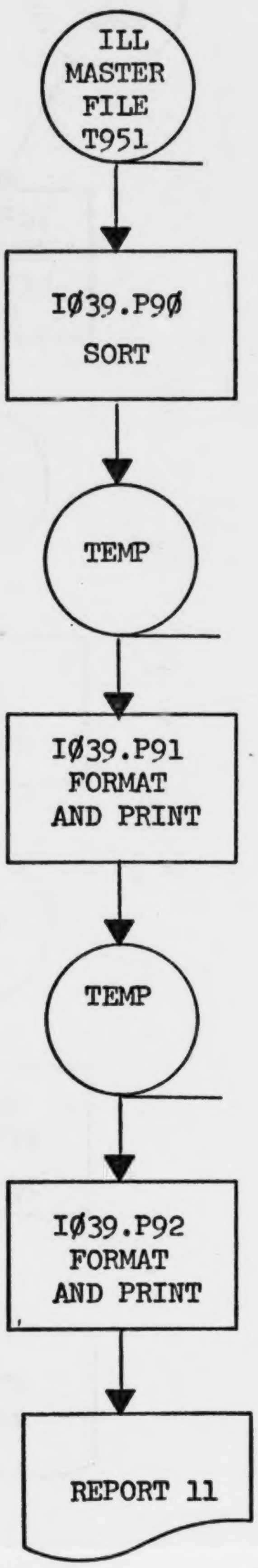
CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 11
Program
Module
Macro

TOPIC Flow Chart for the Creation of Report 11

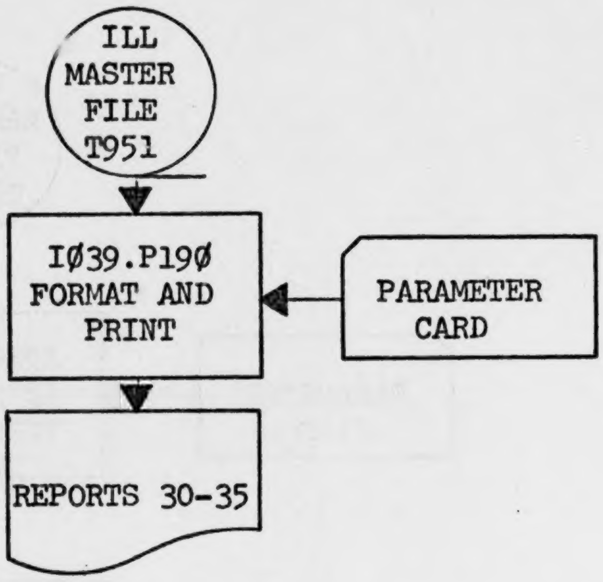
ID
System
Program
Module
Macro

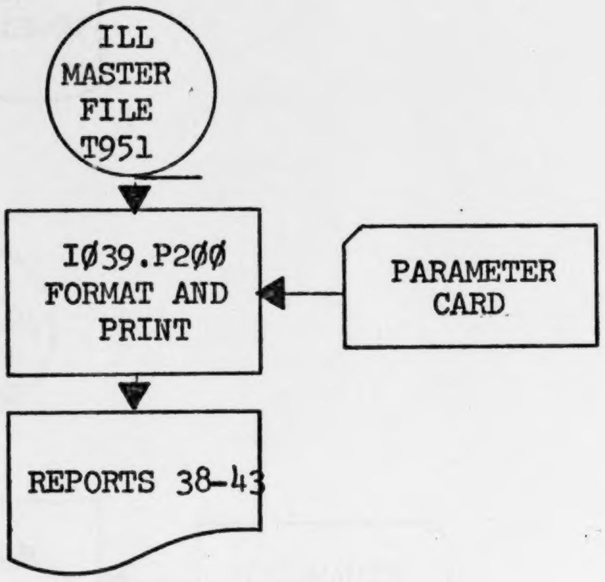

ILL MASTER FILE T951
I039.P90 SORT
TEMP
I039.P91 FORMAT AND PRINT
TEMP
I039.P92 FORMAT AND PRINT
REPORT 11

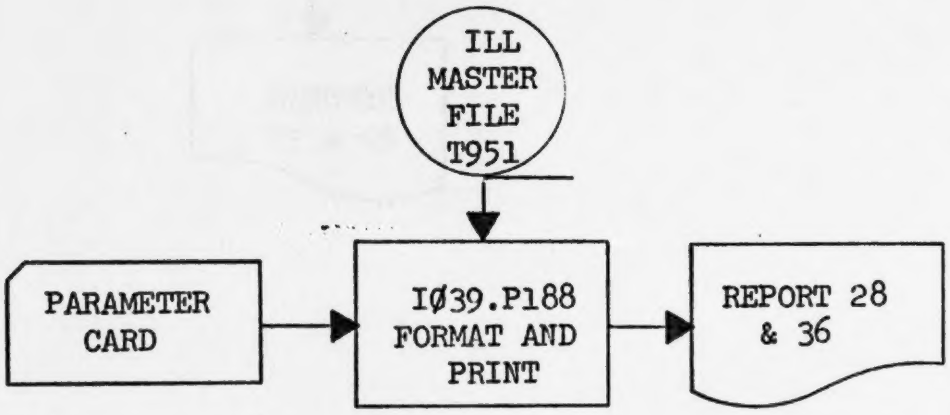
NAME
System U.S.O.E. REPORTS 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43
Program
Module
Macro

ID
System
Program
Module
Macro

TOPIC Flow Chart for the Creation of Reports 28, 30, 31, 32, 33, 34, 35, 38, 39, 40, 41, 42, 43


ILL MASTER FILE T951
I039.P190 FORMAT AND PRINT
PARAMETER CARD
REPORTS 30-35

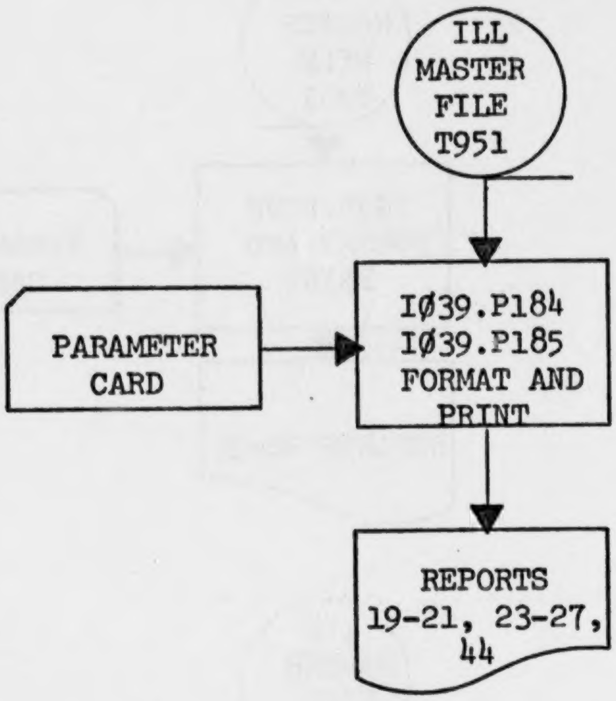

ILL MASTER FILE T951
I039.P200 FORMAT AND PRINT
PARAMETER CARD
REPORTS 38-43

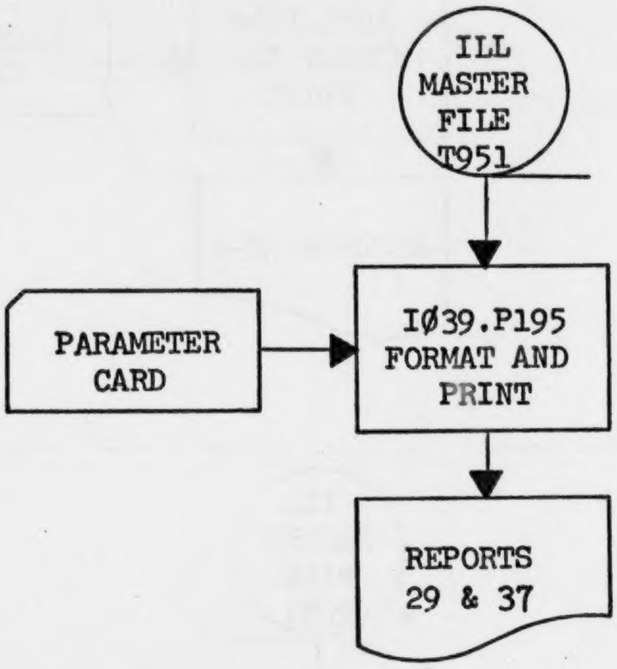

ILL MASTER FILE T951
PARAMETER CARD
I039.P188 FORMAT AND PRINT
REPORT 28 & 36

NAME System Program Module Macro: U.S.O.E. REPORTS 19, 20, 21, 23, 24, 25, 26, 27, 29, 37, 44

ID System Program Module Macro

TOPIC: Flow Chart for the Creation of Reports 19, 20, 21, 23, 24, 25, 26, 27, 29, 37, 44

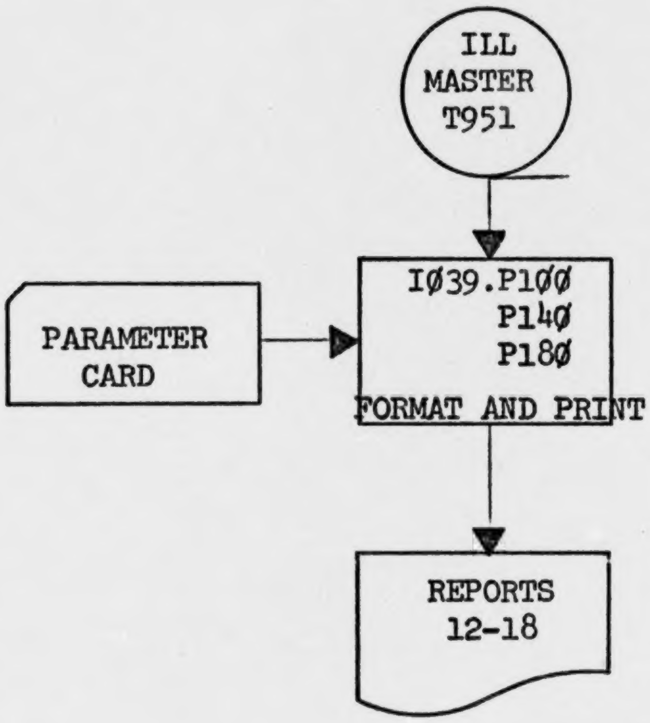

ILL MASTER FILE T951
PARAMETER CARD
IØ39.P184
IØ39.P185
FORMAT AND PRINT
REPORTS 19-21, 23-27, 44


ILL MASTER FILE T951
PARAMETER CARD
IØ39.P195
FORMAT AND PRINT
REPORTS 29 & 37

NAME
System U.S.O.E. REPORTS 12, 13, 14, 15, 16, 17, 18
Program
Module
Macro

ID
System
Program
Module
Macro

TOPIC Flow Chart for the Creation of Reports 12, 13, 14, 15, 16, 17, 18


ILL MASTER T951
I039.P100
P140
P180
FORMAT AND PRINT
PARAMETER CARD
REPORTS 12-18

APPENDIX 11

Computer Program Descriptions

This Appendix contains descriptions of the computer programs identified on the flow charts in Appendix 10. A total of 20 computer programs were required to build the Applicability File, the Interlibrary Loan File, and generate the data analysis reports described in Appendix 7. For each computer program the following information is given:

I Purpose

II Abstract

III Summary Chart

IV Computing System Requirements

Programs P10 - P40 were developed to build the Applicability File. P50 - P80 were used to build the Interlibrary Loan File, while P90 - P200 were designed to produce the data analysis reports.

The following list gives the functions, along with the programs and modules, necessary for the generation of the reports described in Appendixes 7 and 10:

FUNCTIONS	PROGRAMS USED	MODULES USED
I039.P10,P20P30	Applicability Master File Creation	OEAPINPT
I039.P50,P60,P10	ILL Master File Creation	OEILINPT
I039.P85	Reports 1 & 3	I0390080,I0390081 I0390082,I0390083 I0390084,I0390085
I039.P86	Sort	
I039.P87	Reports 2,7-9	I0390043
I039.P90	Select	I0390051
I039.P91	Sort	
I039.P92	Report 11	I0390078,I0390053
I039.P100	Report 12,14-17	I0390032,I0390053 I0390034
I039.P110	Report 4	I0390029,I0390030 I0390044
I039.P120	Sort	
I039.P125	Reports 5 & 6	I0390031
I039.P130	Select	I0390026,I0390027 I0390025
I039.P131	Sort	
I039.P132	Reports 10 & 22	I0390058
I039.P140	Report 18	I0390068,I0390069 I0390070,I0390035
I039.P180	Report 13	I0390071,I0390072 I0390073
I039.P184	Reports19-20 23-27, & 44	I0390039,I0390040
I039.P185	Report 21	I0390042
I039.P189	Reports 28 & 36	REP3628
I039.P190	Reports 30-35	I0390058,I0390059 I0390060,I0390061 I0390062
I039.P195	Reports 29 & 37	I0390074,I0390075 I0390076,I0390077
I039.P200	Reports 38-43	I0390063,I0390064 I0390065,I0390066 I0390067

CHEMICAL ABSTRACTS SERVICE Systems Development	NAME		ID
	System	U.S.O.E. REPORTS	System I039
	Program		Program P10
	Module	OEAPINPT	Module
	Macro		Macro
DOCUMENTATION MANUAL	TOPIC	PURPOSE AND ABSTRACT	PAGE

I. **PURPOSE**

The purpose of this program is to edit, list, and format to standard file format all keyboarded data for the Office of Education Applicability Master file.

II. **ABSTRACT**

This program has as its input keyboarded data on Mohawk Tape. This data will be edited for errors in context and format. All material is listed for proofing and errors flagged as such. All records are formated in standard file format and output on 2400 9-track tape.

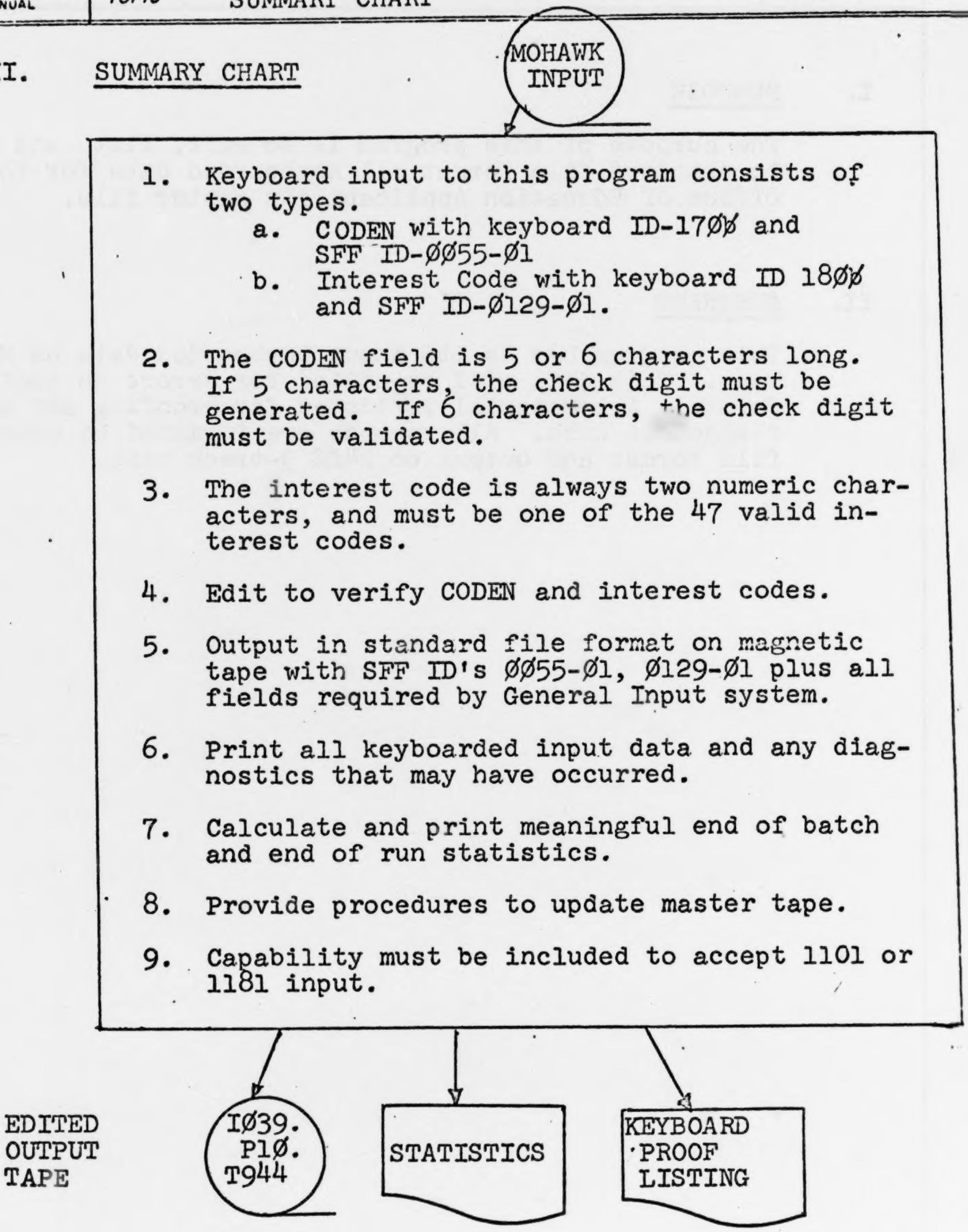
NAME
System U.S.O.E. REPORTS
Program
Module OEAPINPT
Macro

ID
System I039
Program P10
Module
Macro

TOPIC SUMMARY CHART

PAGE

III. SUMMARY CHART



1. Keyboard input to this program consists of two types.
    a. CODEN with keyboard ID-1700 and SFF ID-0055-01
    b. Interest Code with keyboard ID 1800 and SFF ID-0129-01.
2. The CODEN field is 5 or 6 characters long. If 5 characters, the check digit must be generated. If 6 characters, the check digit must be validated.
3. The interest code is always two numeric characters, and must be one of the 47 valid interest codes.
4. Edit to verify CODEN and interest codes.
5. Output in standard file format on magnetic tape with SFF ID's 0055-01, 0129-01 plus all fields required by General Input system.
6. Print all keyboarded input data and any diagnostics that may have occurred.
7. Calculate and print meaningful end of batch and end of run statistics.
8. Provide procedures to update master tape.
9. Capability must be included to accept 1101 or 1181 input.

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer

   a. IBM 360, Model 50 or above

2. I/O Devices

   a. IBM 1403 Printer

   b. Two 2400 9-track tapes drives

   c. Model 2540 Card Reader

3. Core Requirements - Total - 55,010 bytes

4. Other - None

B. Software

1. Operating System

   a. IBM OS/360

2. CAS Modules Referenced

A.	STDSYNAD	E.	LRMVC
B.	$CAROL	F.	PRTUCSV
C.	CHKDIGIT	G.	TEXTPRT
D.	CHKDATE	H.	XDATE

3. Execution Time -

4. Other - none

CHEMICAL ABSTRACTS SERVICE
Systems Development
DOCUMENTATION MANUAL

NAME System	U.S.O.E. REPORTS	ID System	I039
Program		Program	P50
Module	OEILINPT	Module	
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of this program is to edit, list, and format to standard file format all keyboarded data for the Office of Education Interlibrary Loan file.

II. ABSTRACT

This program has as its input keyboarded data on Mohawk Tape. This data will be edited for error on context and format. All material is listed for proofing and errors flagged as such. All records are formated in standard file format and output on 2400 9-track tape.

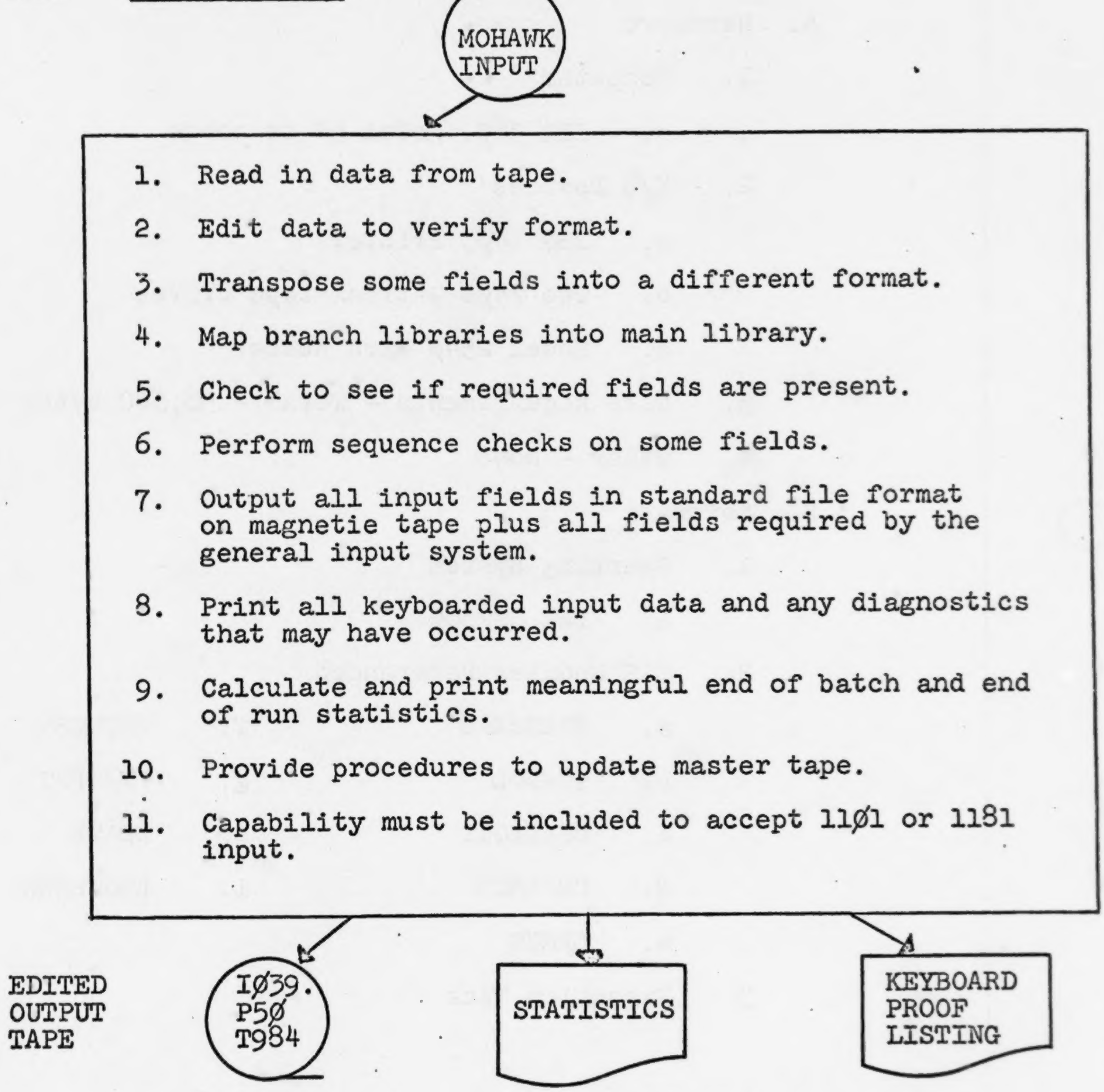
kad

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS	System	I039
Program		Program	P50.
Module	OEILINPT	Module	
Macro		Macro	
TOPIC	SUMMARY CHART	PAGE	

III. SUMMARY CHART



1. Read in data from tape.
2. Edit data to verify format.
3. Transpose some fields into a different format.
4. Map branch libraries into main library.
5. Check to see if required fields are present.
6. Perform sequence checks on some fields.
7. Output all input fields in standard file format on magnetie tape plus all fields required by the general input system.
8. Print all keyboarded input data and any diagnostics that may have occurred.
9. Calculate and print meaningful end of batch and end of run statistics.
10. Provide procedures to update master tape.
11. Capability must be included to accept 1101 or 1181 input.

kad

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    a. IBM 360, Model 50 or above
2. I/O Devices
    a. IBM 1403 Printer
    b. Two 2400 9-track tape drives
    c. Model 2540 Card Reader
3. Core Requirements - Total - 58,500 bytes
4. Other - None

B. Software

1. Operting System
    a. IBM OS/360
2. CAS Modules Referenced
    a. STDSYNAD
    b. $CAROL
    c. CHKDIGIT
    d. CHKDATE
    e. LRMVC
    f: PRTUCSV
    g. TEXTPRT
    h. XDATE
    i. LNGTHCHK
3. Execution Time

4. Other - None

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 1,2A,2B,3,7,8,9
Program
Module I0390080
Macro

ID
System I039
Program P85
Module I0390080
Macro

TOPIC PURPOSE AND ABSTRACT
PAGE

I. PURPOSE

The purpose of I0390080 is to act as a table of switches and counters to indicate publication holdings in particular states and regions and, also, on the national level.

II. ABSTRACT

Each for the 50 states, DC, and Puerto Rico are represented by a 270 byte string, which represents the 270 years between 1700 and 1969. If that state has a journal in a particular year, the switch which represents that year is set to X'FF', else it is X'00'. There are also eight fullword counters for each state, to which statistics are added for reports 1 and 3.

III. SUMMARY CHART

Not applicable

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
   IBM 360, Model 50

2. I/O Devices
   None

3. Core Requirements
   18,780 Bytes

4. Other
   None

B. Software

1. Operating System
   IBM OS/360

2. CAS Modules Referenced
   None

3. Execution Time
   Not Applicable

4. Other
   None

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 1,2A,2B,3,7,8,9	System	I039
Program		Program	P85
Module	I0390081	Module	I0390081
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

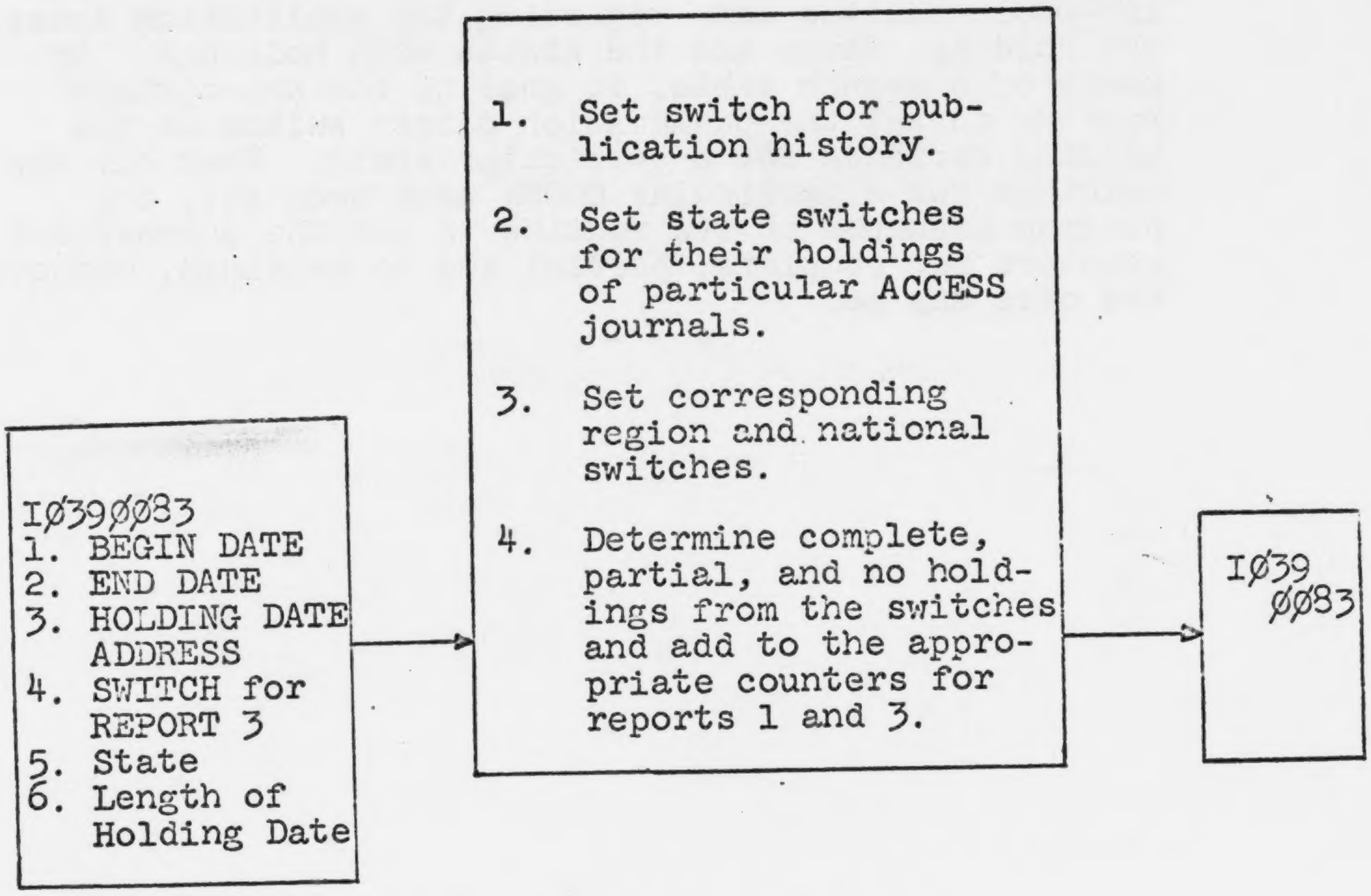
I. PURPOSE

The purpose of I0390081 is to turn on the appropriate switches to indicate the holdings of a state or region for a particular ACCESS journal and also to add to the appropriate counters for reports 1 and 3.

II. ABSTRACT

I0390081 receives data regarding the publication dates, the holding dates and the states with holdings. By means of a branch table, it goes to the appropriate routine to set the publication dates' switch or the holding switches for a particular state. When all the holdings for a particular CODEN have been set, the program branches to its routine to add the appropriate counters for complete, partial and no holdings, whatever the case may be.

III. SUMMARY CHART



I0390083
1. BEGIN DATE
2. END DATE
3. HOLDING DATE ADDRESS
4. SWITCH for REPORT 3
5. State
6. Length of Holding Date

1. Set switch for publication history.
2. Set state switches for their holdings of particular ACCESS journals.
3. Set corresponding region and national switches.
4. Determine complete, partial, and no holdings from the switches and add to the appropriate counters for reports 1 and 3.

I039 0083

KN:ls

4/1969

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer

   IBM 360, Model 50

2. I/O Devices

   None

3. Core Requirements

   2.7K or 2736 bytes

4. Other - None

B. Software

1. Operating System

   IBM OS/360

2. CAS Modules Referenced

   a. LRCLC c. I0390080

   b. LRMVC

3. Execution Time

   Not applicable

4. Other

   None

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 1,2A,2B,3,7,8,9	System	I039
Program		Program	P85
Module	I0390082	Module	I0390082
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

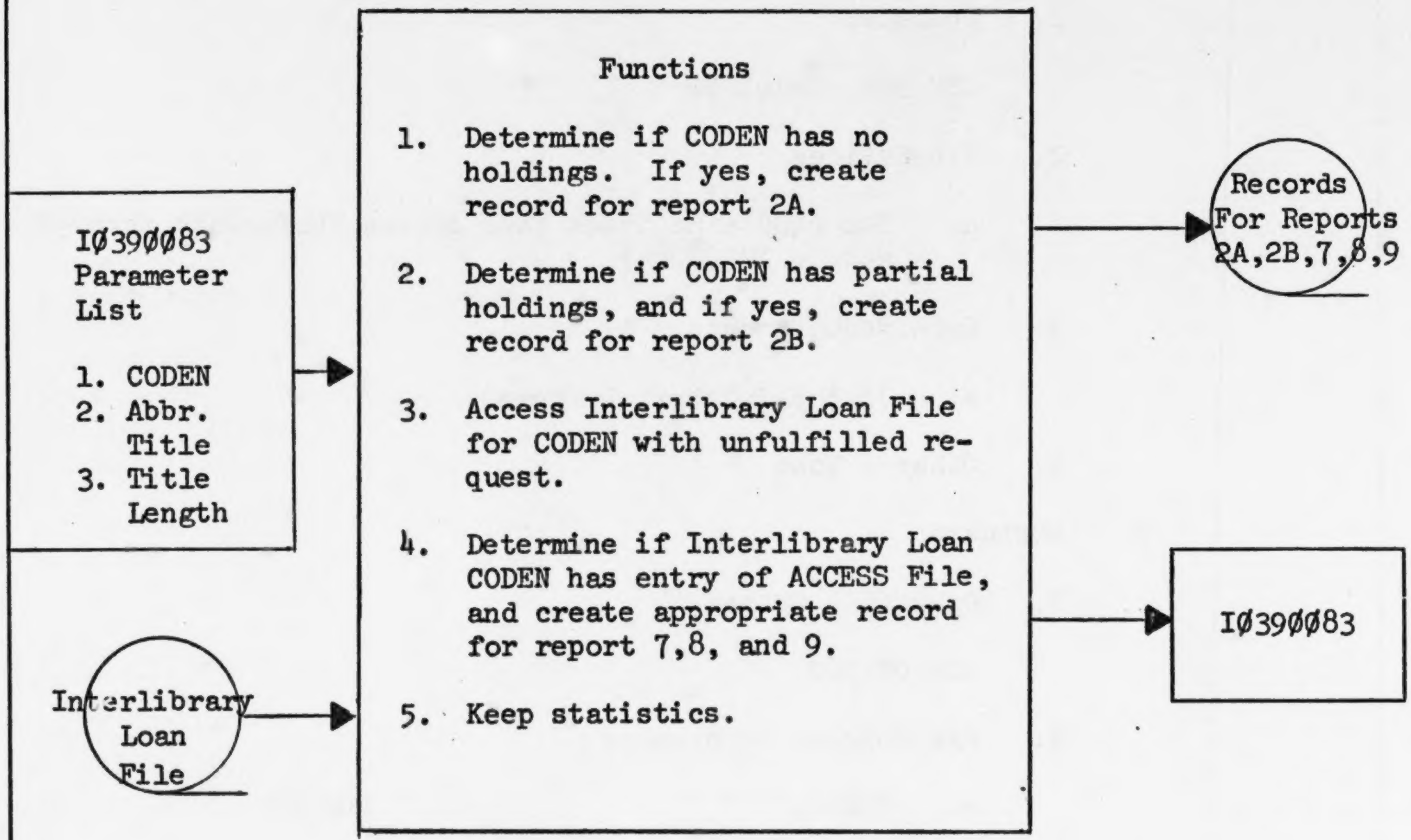
I. PURPOSE

The purpose if I0390082 is to build records for reports 2A, 2B, 7, 8, and 9.

II. ABSTRACT

Module I0390082 has as input the Interlibrary Loan File data from the ACCESS File which is passed by module I039-0083. When one CODEN has been completely processed, I0390083 calls I0390082 to create reports 2A, 2B, and 7, 8, and 9. First, it is determined if the journal had pro holdings or partial holdings and record for reports 2A and 2B are created respectively. An Interlibrary Loan File CODEN with an unfulfilled request is then accessed. It is determined if this Interlibrary Loan File request has an entry on the ACCESS file, and if it does whether there were holdings or not. The appropriate information is recorded for report 7-8-9.

III. SUMMARY CHART



I0390083
Parameter
List
1. CODEN
2. Abbr. Title
3. Title Length
Interlibrary Loan File
Functions
Records For Reports 2A,2B,7,8,9
I0390083

Functions

1. Determine if CODEN has no holdings. If yes, create record for report 2A.
2. Determine if CODEN has partial holdings, and if yes, create record for report 2B.
3. Access Interlibrary Loan File for CODEN with unfulfilled request.
4. Determine if Interlibrary Loan CODEN has entry of ACCESS File, and create appropriate record for report 7,8, and 9.
5. Keep statistics.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 1,2A,2B,3,7,8,9	System	I039
Program		Program	P85
Module	I0390082	Module	I0390082
Macro		Macro	
TOPIC	COMPUTING SYSTEM REQUIREMENTS	PAGE	

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer

   IBM 360, Model 50

2. I/O Devices

   a. Two 2400 nine track tape drives (Reference through I/O module I0390084)

3. Core Requirements

   a. 15.5 K (without buffers)

4. Other - None

B. Software

1. Operating System

   IBM OS/360

2. CAS Modules Referenced

   a. $CAROL
   b. LRCLC
   c. I0390084
   d. I0390080
   e. RDCODEN

3. Execution Time

   Not applicable

4. Other - None

kad
4/69

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 1,2A,2B,3,7,8,9
Program
Module MAIN LINE
Macro

ID
System I039
Program I039.P85
Module I039083
Macro

TOPIC PURPOSE AND ABSTRACT

PAGE -

I. PURPOSE

The purpose of this module is to provide main line control for I039.P85.

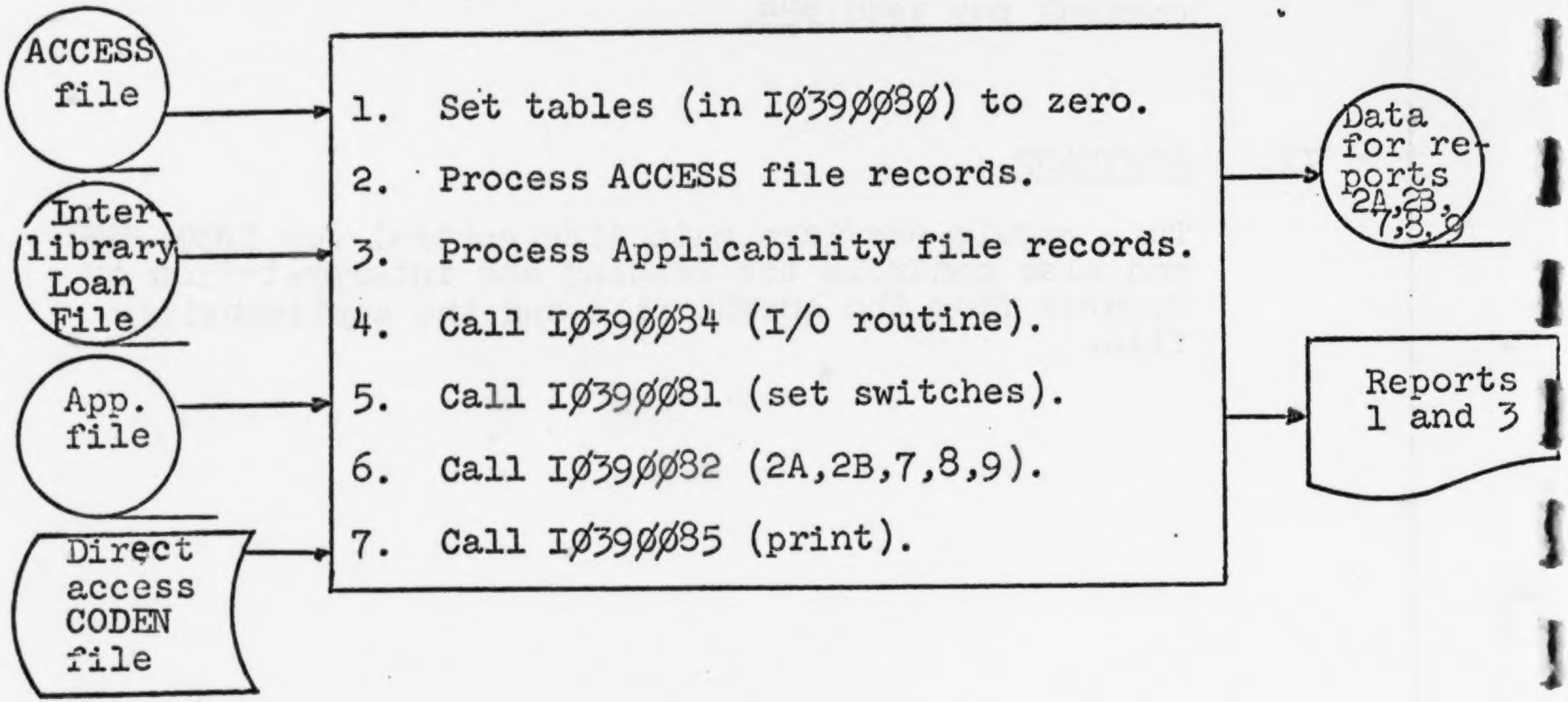
II. ABSTRACT

This module provides main line control for I039.P85 and also controls the reading and interpretation of records from the ACCESS file and the applicability file.

K B:lds

5/1969

III. SUMMARY CHART


ACCESS file
Inter-library Loan File
App. file
Direct access CODEN file
Data for reports 2A,2B, 7,8,9
Reports 1 and 3

1. Set tables (in I0390080) to zero.
2. Process ACCESS file records.
3. Process Applicability file records.
4. Call I0390084 (I/O routine).
5. Call I0390081 (set switches).
6. Call I0390082 (2A,2B,7,8,9).
7. Call I0390085 (print).

KHB:lds

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. Four 2400 tape drives
3. Core Requirements (excluding buffers) are

   I039.P85 - 49,896 bytes
   I0390083 - 3005 bytes

B. Software

1. IBM OS/360 (MFT)
2. CAS Modules Referenced

   $CAROL
   RDCODEN
   STDSYNAD
   I0390080 (entry point CONNC)
   I0390081
   I0390082
   I0390084
   I0390085

3. Execution Time - 1 hour

B:ls

NAME		ID	
System	U.S.O.E. REPORTS 1,2A,2B,3,7,8,9	System	I039
Program		Program	I039.P85
Module	I/O	Module	I039034
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE- -	

I. PURPOSE

The purpose of this module is to provide the input/output processing for I039.P85.

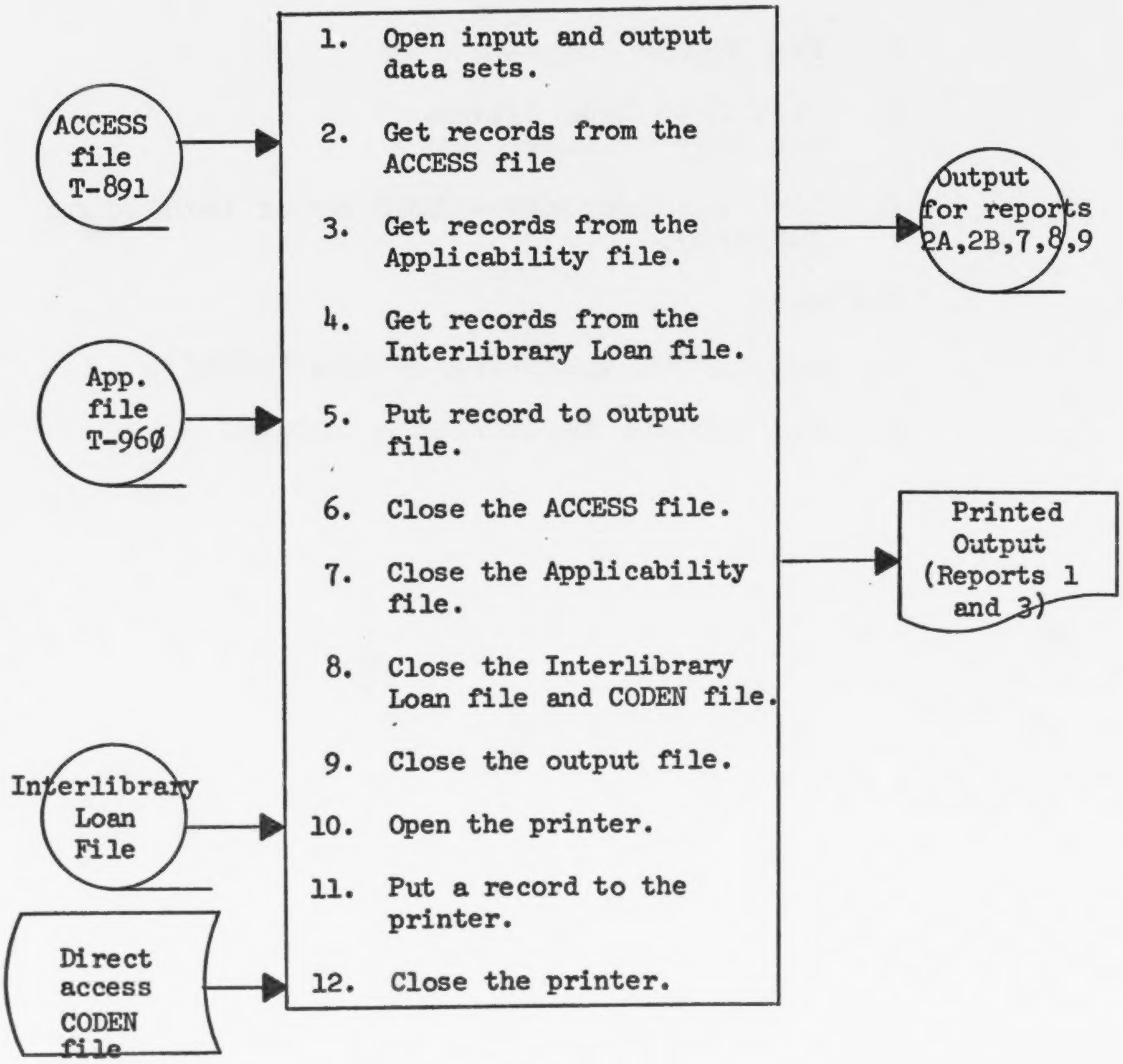
II. ABSTRACT

This module performs I/O processing of the input and output data sets used by I039.P85.

HB:lds

5/1969

III. SUMMARY CHART


ACCESS file T-891
App. file T-960
Interlibrary Loan File
Direct access CODEN file
Output for reports 2A,2B,7,8,9
Printed Output (Reports 1 and 3)

1. Open input and output data sets.
2. Get records from the ACCESS file
3. Get records from the Applicability file.
4. Get records from the Interlibrary Loan file.
5. Put record to output file.
6. Close the ACCESS file.
7. Close the Applicability file.
8. Close the Interlibrary Loan file and CODEN file.
9. Close the output file.
10. Open the printer.
11. Put a record to the printer.
12. Close the printer.

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer.
2. Four 2400 tape drives.
   One 1403 printer.
3. Core Requirements - 1016 bytes (excluding buffers).

B. Software

1. IBM OS/360 Operating System (MFTII).
2. CAS Modules Referenced - RDCODEN

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 1,2A.2B,3,7,8,9
Program
Module PRINT
Macro

ID
System I039
Program I039.P85
Module I0390085
Macro

TOPIC PURPOSE AND ABSTRACT

PAGE

I. PURPOSE

The purpose of this module is to print O.E. Reports Numbers 1 and 3.

II. ABSTRACT

Percentage values are calculated and Reports 1 and 3, together with statistics, are printed.

KB:ls

5/1969

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

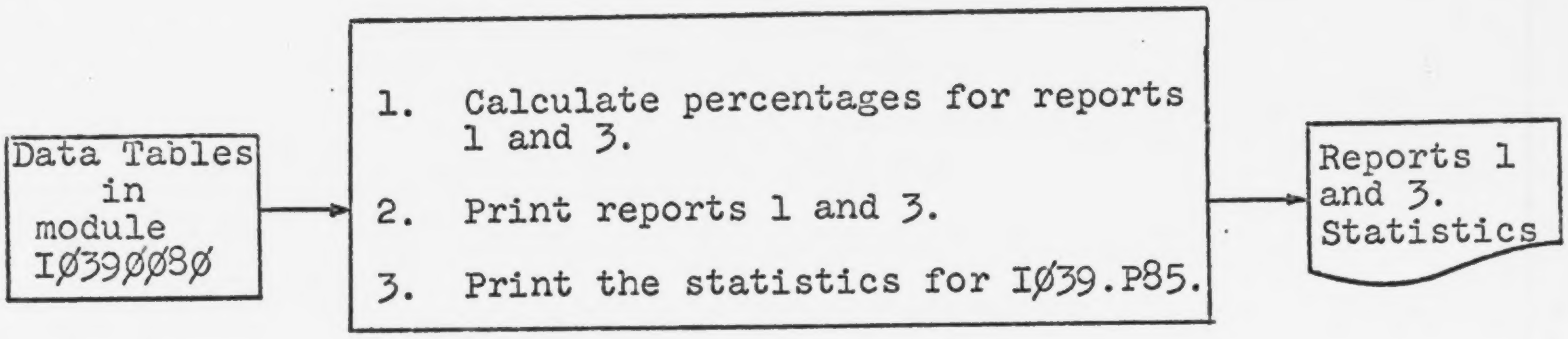
NAME
System U.S.O.E. REPORTS 1,2A,2B,3,7,8,9
Program
Module PRINT
Macro

TOPIC SUMMARY CHART

ID
System I039
Program I039.P85
Module I039085
Macro

PAGE

III. SUMMARY CHART


Data Tables in module I039080
Reports 1 and 3. Statistics

1. Calculate percentages for reports 1 and 3.
2. Print reports 1 and 3.
3. Print the statistics for I039.P85.

:ls

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 1,2A,2B,3,7,8,9
Program PRINT
Module
Macro

ID
System I039
Program I039.P85
Module I0390085
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS

PAGE - -

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer.
2. One 1403 printer.
3. Core Requirements - 6219 bytes (excluding buffers).

B. Software

1. IBM OS/360 Operating System (MFTII).
2. CAS Modules Referenced - None

KB:ls

5/1969

NAME System Program Module Macro	U.S.O.E. REPORTS 2A,2B,7,8,9	ID System Program Module Macro	I039 I039.P86
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of this program is to sort according to sortkey, title, and line number the records output by I039.P85 for Reports 2A,2B,7,8, and 9 of the U.S.O.E. Contract.

II. ABSTRACT

This sort program is the CAS modification of the IBM OS/360 SORT/MERGE. See the memo "Modifications to OS/360 SORT MERGE" by G. D. Edgecomb, 14 January 1969, for a complete description.

HB:lds

5/1969

III. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. 6 2400 tape drives
3. Core Requirements - 88K

B. Software

1. IBM OS/360 (MFTII) operating system
2. CAS Modules Referenced - None
3. Execution Time -

CHEMICAL ABSTRACTS SERVICE Systems Development DOCUMENTATION MANUAL	NAME System Program Module Macro	U.S.O.E. REPORTS 2A,2B,7,8,9	ID System Program Module Macro	I039 I039.P86
	TOPIC	FUNCTIONS	PAGE	

IV. FUNCTIONS

A. Source of data

I039.P85

B. Sort fields

	ID	Modification	Name
1.	013D	01	Sortkey
2.	005D	01	Title

KHB:lds

5/1969

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME	U.S.O.E. REPORTS 1, 2A, 2B, 3, 7, 8, 9	ID	
System		System	I039
Program		Program	P87
Module	I0390043	Module	I0390043
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

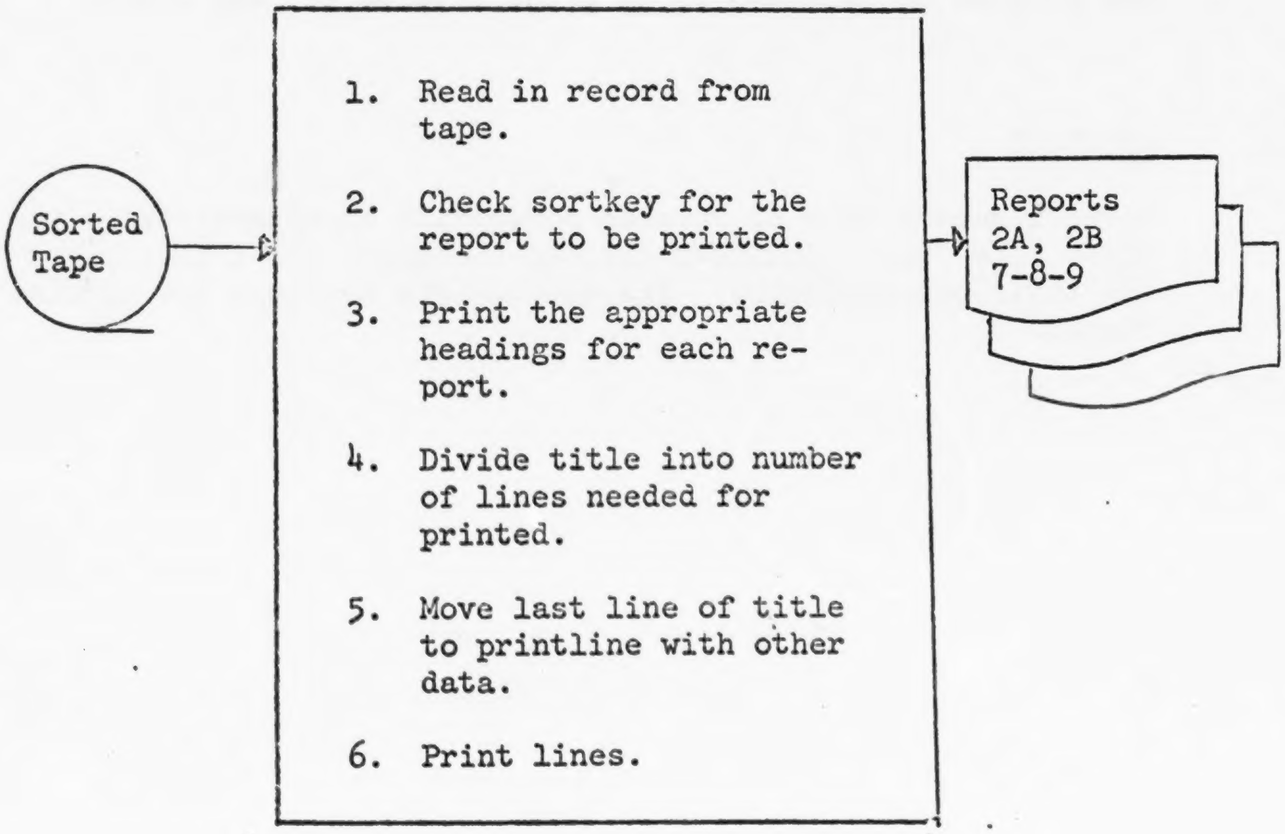
The purpose of I0390043 is to print reports 2A, 2B, 7-8-9.

II. ABSTRACT

Given a sorted tape of records containing an abbreviated title field and a print line field, I0390043 divides the title for printing and prints the title and printline. The appropriate headings are printed for each report.

4/28/69

III. SUMMARY CHART



1. Read in record from tape.
2. Check sortkey for the report to be printed.
3. Print the appropriate headings for each report.
4. Divide title into number of lines needed for printed.
5. Move last line of title to printline with other data.
6. Print lines.

VW
4/29/69

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME System	U.S.O.E. REPORTS 1, 2A, 2B, 3, 7-8-9	ID System	I039
Program		Program	P87
Module	I0390043	Module	I0390043
Macro		Macro	
TOPIC	COMPUTING SYSTEM REQUIREMENTS	PAGE	

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    a. IBM 360, Model 50
2. I/O Devices
    a. One 2400 nine track tape drive
    b. 1403 printer
3. Core Requirements
    a. 11,924 (without buffers)
    b. 19,656 (without buffers)
4. Other - none

B. Software

1, Operating System
    a. IBM OS/360
2. CAS Modules Referenced
    a. ALLPRINT
    b. $CAROL
    c. STDSYNAD
3. Execution Time
    9 min. per 10,000 records
4. Other - None

VV
4/29/69

Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS
Program
Module I0390051
Macro

ID
System I039
Program P90
Module
Macro

TOPIC PURPOSE and ABSTRACT

PAGE

I. PURPOSE

I0390051 was written for system I039 to perform mainline functions for the sortkey generating routine I0390052.

II. ABSTRACT

I0390051 gets input and provides printer DCB for I0390052.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

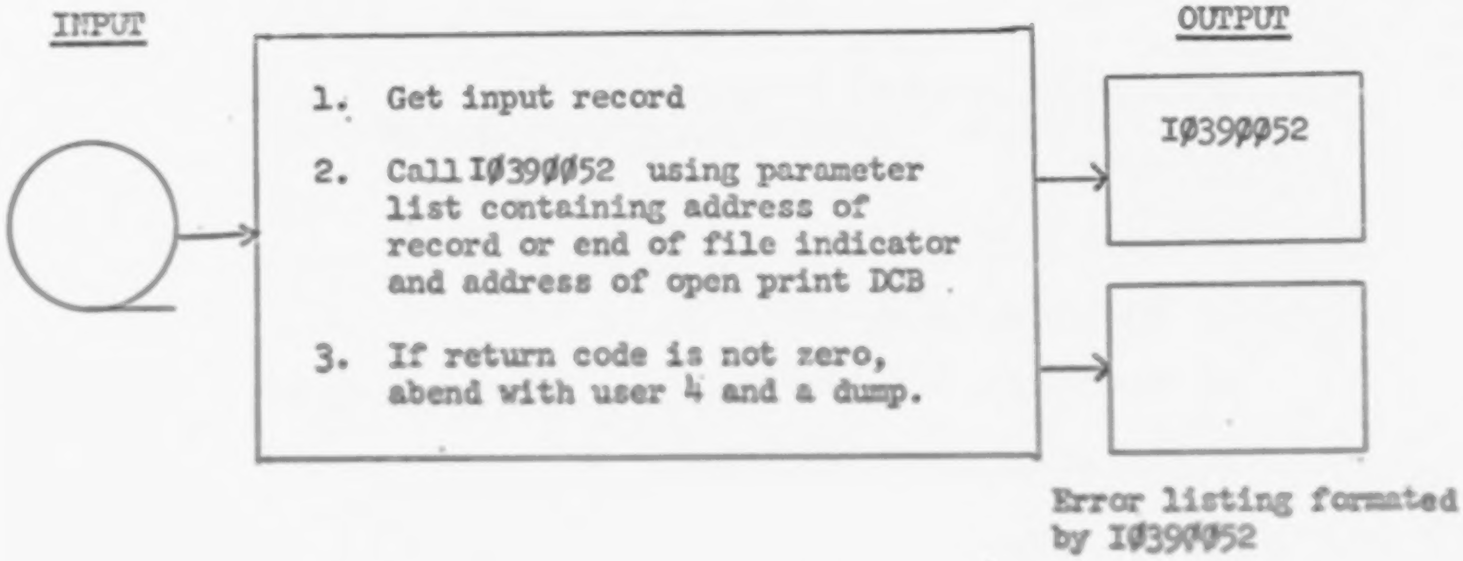
NAME
System U.S.O.E. REPORTS
Program
Module I0390051
Macro

ID
System I039
Program P90
Module
Macro

TOPIC SUMMARY CHART

PAGE

III. SUMMARY CHART


INPUT
OUTPUT
I0390052
Error listing formated by I0390052

1. Get input record
2. Call I0390052 using parameter list containing address of record or end of file indicator and address of open print DCB.
3. If return code is not zero, abend with user 4 and a dump.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS	System	I039
Program		Program	P90
Module	I0390051	Module	
Macro		Macro	
TOPIC	COMPUTING SYSTEM REQUIREMENTS	PAGE	

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer IBM/360
2. I/O Devices - 1 - 2400 Tape
   1 - 1403 printer with regular chain.
3. Core Requirements - Minimum of 30K for all modules and buffers. I0390051 itself has a length of 444 bytes.

B. Software

1. Operating System - O.S.
2. CAS Modules References - $CAROL, RDCODEN, I0390052.
3. Execution Time - Tape speed.

NAME
System U.S.O.E. REPORTS
Program
Module I0390078
Macro

ID
System I039
Program P92
Module
Macro

TOPIC PURPOSE and ABSTRACT

PAGE

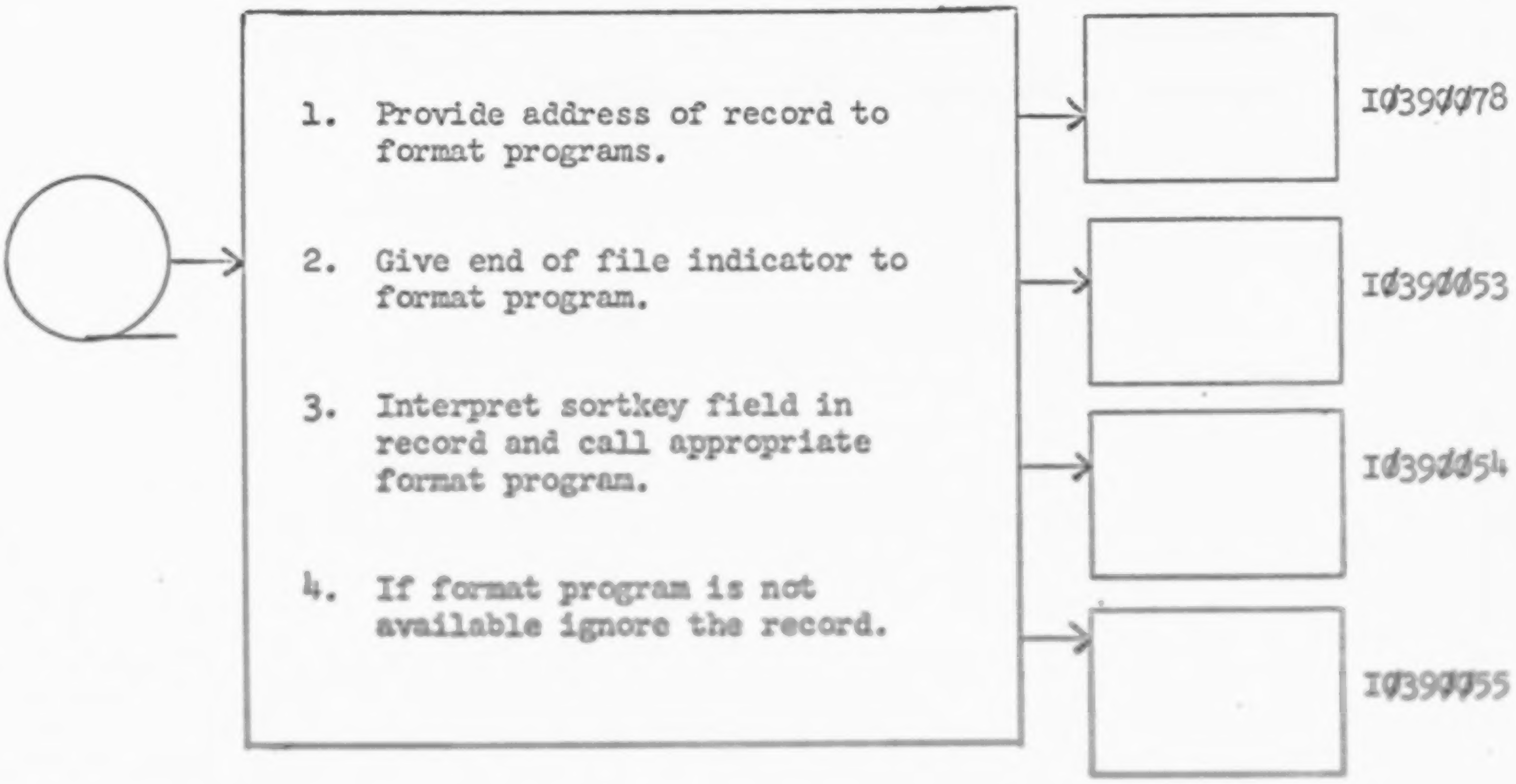
I. PURPOSE

I0390078 was written for I039 to perform mainline functions for the format and print modules I0390079, I0390053, I0390054 and I0390055.

II. ABSTRACT

I0390078 is the mainline for job I039P92.

III. SUMMARY CHART



1. Provide address of record to format programs.
2. Give end of file indicator to format program.
3. Interpret sortkey field in record and call appropriate format program.
4. If format program is not available ignore the record.

NAME
System U.S.O.E. REPORTS
Program
Module I0390078
Macro

ID
System I039
Program P92
Module
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS

PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer - IBM S/360
2. I/O Devices
3. Core Requirements - This mainline and associated programs will run in a 40K partition.
   The length of I0390078 is 492 bytes.

B. Software

1. Operating System - O.S.
2. CAS Modules Referenced - $CAROL, I0390079, I0390053 I0390054, I0390055.
3. Execution Time - Printer Speed.

CHEMICAL ABSTRACTS SERVICE Systems Development	NAME System U.S.O.E. REPORTS Program Module I0390078 Macro	ID System I039 Program P92 Module Macro
DOCUMENTATION MANUAL	TOPIC FUNCTIONS	PAGE

V. FUNCTIONS

A. Get the input record and provide record address to format program.

B. Interpret byte settings in the sortkey of the record and call appropriate format program.

C. Give end of file indicator to each program.

NAME
System U.S.O.E. REPORTS
Program
Module I0390078, I0390053
Macro

ID
System I039
Program P92
Module
Macro

TOPIC PURPOSE AND ABSTRACT

PAGE

I. PURPOSE

I0390053 was written for I039 to format for printing the right half of report 11-A.

II. ABSTRACT

I0390053 prints the right half of report 11-A.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

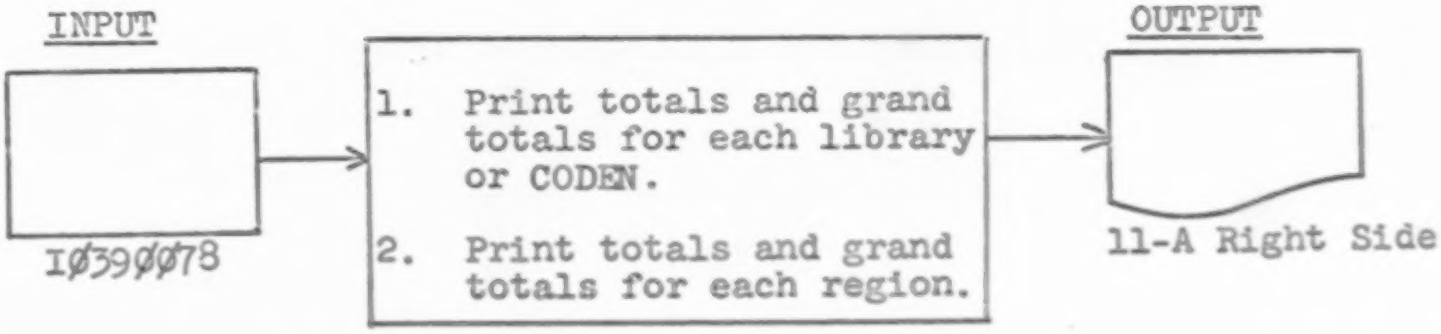
NAME
System U.S.O.E. REPORTS
Program
Module I0390078, I0390053
Macro

ID
System I039
Program P92
Module
Macro

TOPIC SUMMARY CHART

PAGE

III. SUMMARY CHART


INPUT
I0390078
OUTPUT
11-A Right Side

1. Print totals and grand totals for each library or CODEN.
2. Print totals and grand totals for each region.

CHEMICAL ABSTRACTS SERVICE
Systems Development
DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS
Program
Module I0390078, I0390053
Macro

ID
System I039
Program P92
Module
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS

PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer - IBM S/360
2. I/O Devices - See I0390078 I/O Devices and ALLPRINT I/O Devices.
3. Core Requirements - I0390053 is 3020 bytes long.

B. Software

1. Operating System - O.S.
2. CAS Modules Referenced - ALLPRINT, $CAROL
3. Execution Time - Printer Speed
4. Other - None

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 12, 14-17	System	I039
Program		Program	P100
Module	I0390032	Module	
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

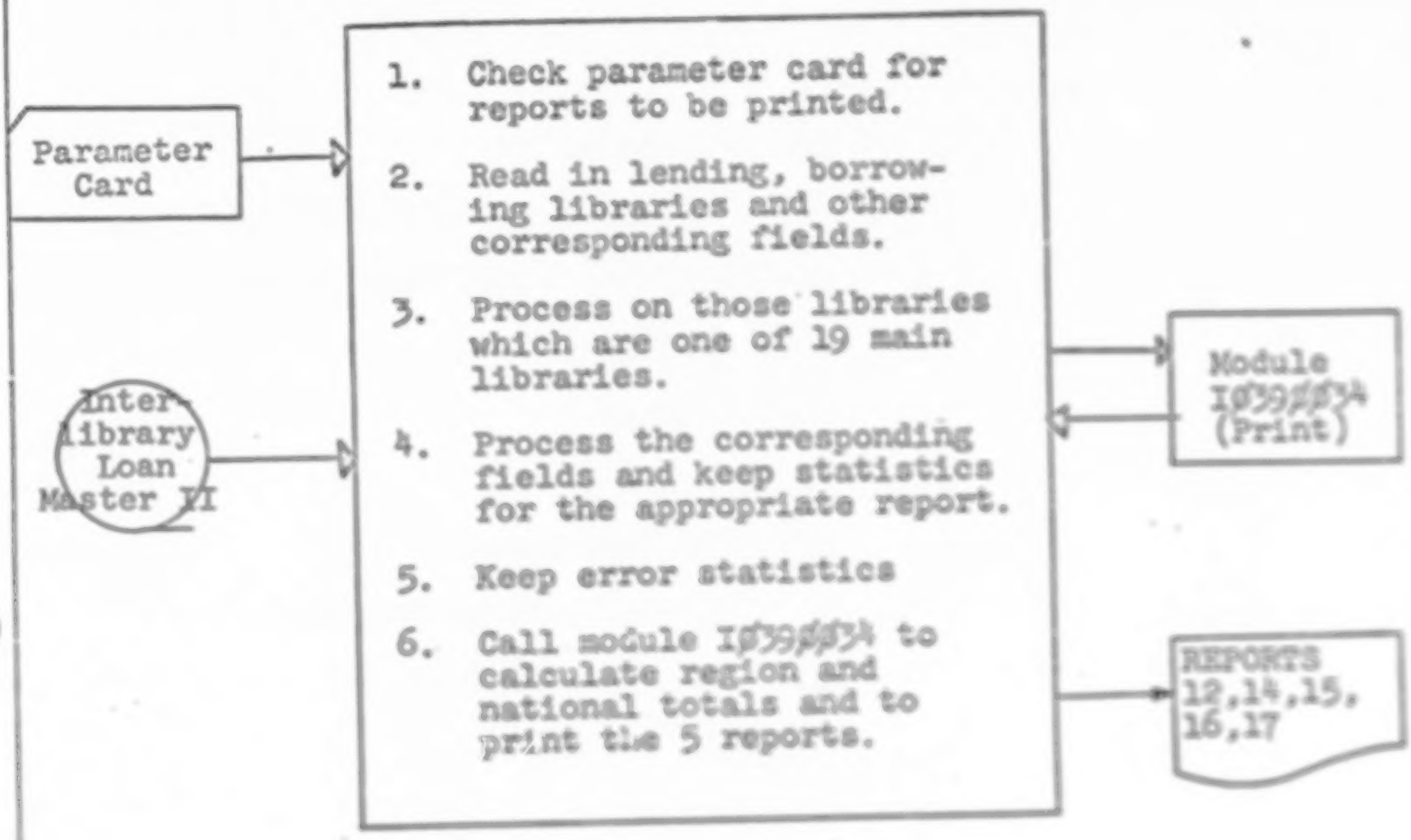
I. PURPOSE

The purpose of I039.P100 is to gather information from the Interlibrary Loan File and to print five reports.

II. ABSTRACT

The Interlibrary Loan Master II File, which contains borrowing libraries, lending libraries, and corresponding information, is input to I039.P100. Module I0390032 keeps statistics for each library regarding specified information necessary for reports 12, 14, 15, 16 and 17. The statistics are kept in halfwords which comprise the table in module I0390033. At the end of the tape, module I0390034 adds region and national totals and prints reports 12, 14, 15, 16 and 17.

III. SUMMARY CHART


Parameter Card
Inter-library Loan Master VI
Module I039034 (Print)
REPORTS 12,14,15, 16,17

1. Check parameter card for reports to be printed.
2. Read in lending, borrowing libraries and other corresponding fields.
3. Process on those libraries which are one of 19 main libraries.
4. Process the corresponding fields and keep statistics for the appropriate report.
5. Keep error statistics
6. Call module I039034 to calculate region and national totals and to print the 5 reports.

Rad
2/69

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    a. IBM 360, Model 50
2. I/O Devices (I0390032 and I0390034),
    a. One 2400 nine track tape drive
    b. 2540 card reader
    c. 1403 printer
3. Core Requirements
    a. I0390032 (Mainline)
        i. 6.94K (without buffers)
        ii. 14.12 (with buffers)
    b. I0390033 (Tables)
        i. 60.7K
    c. I0390034 (Print)
        i. 9.18K (without buffers)
        ii. 9.45K (with buffers)
4. Other - None

B. Software

1. Operating System
    a. IBM OS/360
2. CAS Modules Referenced (in both I0390032 and I0390034)
    a. $CAROL
    b. STDSYNAD
    c. ALLPRINT
    d. I0390033 (By Entry Points)
    e. I0390034

kad
2/69

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 12,14,15,16,17	System	I039
Program		Program	P100
Module	I0390033	Module	
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of I0390033 is to be a table in which statistics will be held.

II. ABSTRACT

I0390033 is a table of halfwords containing statistics for ninteen libraries each of which are both lending and receiving libraries. Each of the thirty-eight lending and receiving libraries is divided into five sections according to the five reports to be printed.

III. SUMMARY CHART

Not applicable.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 12,14,15,16,17
Program
Module I0390033
Macro

ID
System I039
Program P100
Module
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS

PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer - IBM 360, Model 50
2. I/O Devices - None
3. Core Requirements - 60.7K or 62, 244 bytes
4. Other - None

B. Software

1. Operating System - IBM OS/360
2. CAS Modules Referenced - None
3. Execution Time - not applicable
4. Other Entry Points -

a. RLIB1
b. LLIB1
c. RLIB2
d. LLIB2
e. RLIB3
f. LLIB3
g. RLIB4
h. LLIB4
i. RLIB5
j. LLIB5
k. RLIB6
l. LLIB6
m. RLIB7
n. LLIB7
o. RLIB8
p. LLIB8
q. RLIB9
r. LLIB9
s. RLIB10
t. LLIB10
u. RLIB11
v. LLIB11
w. RLIB12
x. LLIB12
y. RLTB13
z. LLIB13
aa. RLIB14
bb. LLIB14
cc. RLIB15
dd. LLIB15
ee. RLIB16
ff. LLIB16
gg. RLIB17
hh. LLIB17
ii. RLIB18
jj. LLIB18
kk. RLIB19
ll. LLIB19
mm. END
nn. START
oo. OUTAREA

CHEMICAL ABSTRACTS SERVICE Systems Development	NAME		ID	
	System	U.S.O.E. REPORTS 12,14,15,16,17	System	I039
	Program		Program	P100
	Module	I0390034	Module	
	Macro		Macro	
DOCUMENTATION MANUAL	TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of I0390034 is to find totals and print the U.S.O.E. Reports 12, 14, 15, 16, and 17.

II. ABSTRACT

Using the table of statistics (I0390033) created by module I0390032, I0390034 computes the region and national totals, prints the appropriate headings for each report, converts the statistics, and prints them in correct format.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

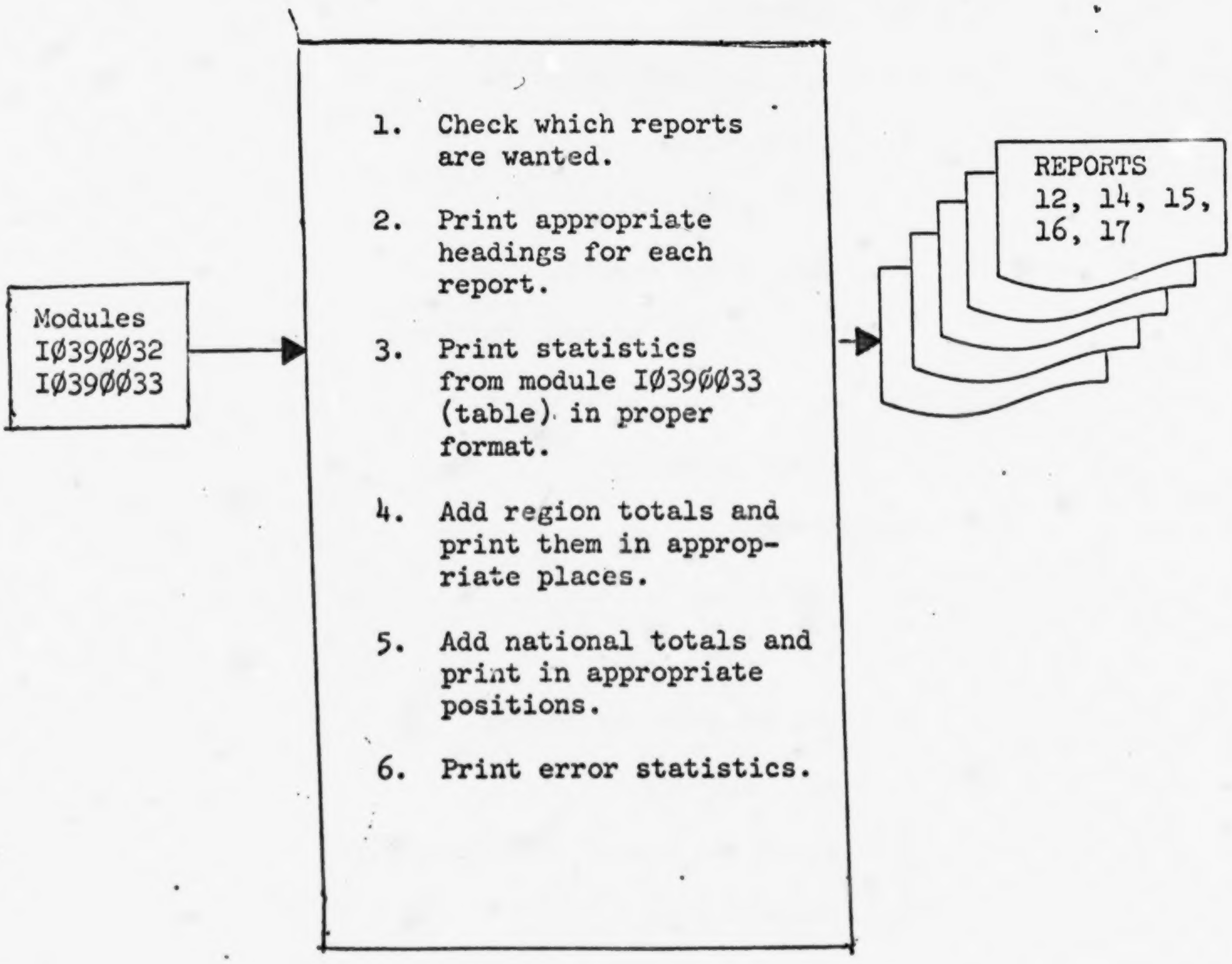
NAME
System U.S.O.E. REPORTS 12,14,15,16,17
Program
Module I0390034
Macro

TOPIC SUMMARY CHART

ID
System I039
Program P100
Module
Macro

PAGE

III. SUMMARY CHART



1. Check which reports are wanted.
2. Print appropriate headings for each report.
3. Print statistics from module I0390033 (table) in proper format.
4. Add region totals and print them in appropriate places.
5. Add national totals and print in appropriate positions.
6. Print error statistics.

ch
3/69

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    a. IBM 360, Model 50
2. I/O Devices
    a. 1403 Printer
3. Core Requirements
    a. 9.18K (without buffers)
    b. 9.45K (with buffers)
4. Other - none

B. Software

1. Operating System
    a. IBM OS/360
2. CAS Modules Referenced
    a. ALLPRINT
3. Execution Time - not applicable
4. Other - none

sh
3/6

CHEMICAL ABSTRACTS SERVICE Systems Development DOCUMENTATION MANUAL	NAME		ID	
	System	U.S.O.E. REPORTS 4, 5, 6	System	I039
	Program		Program	P110
	Module	I0390029	Module	
	Macro		Macro	
	TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

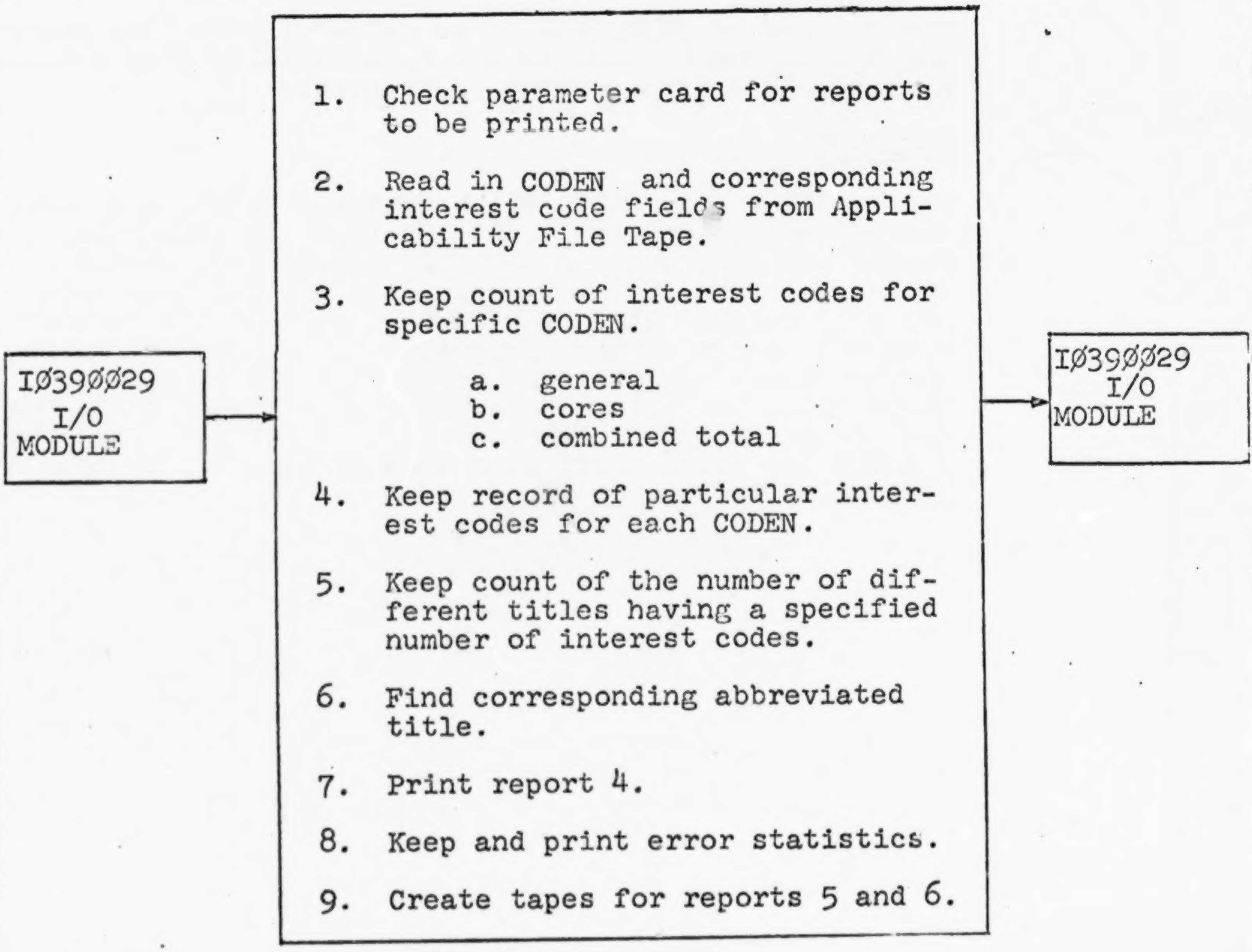
The purpose of I039.P110 is to gather information regarding the interest codes in the Applicability File created by I039.P30 and to print three reports.

II. ABSTRACT

The Applicability File, which contains CODEN and their corresponding interest codes, is input to I039.P110. Module I0390029 keeps a count of the general interest codes, the core interest codes, and the combined total for each CODEN. Also, a record is kept of the specific interest codes for each journal. After retrieving the abbreviated title from the CODEN vs. Abbreviated Journal Title File, the print lines for reports 5 and 6 are built and placed on tape. Report 4 is then printed. Reports 5 and 6 are later sorted and then printed out by module I0390031.

kad

III. SUMMARY CHART



1. Check parameter card for reports to be printed.
2. Read in CODEN and corresponding interest code fields from Applicability File Tape.
3. Keep count of interest codes for specific CODEN.
    - a. general
    - b. cores
    - c. combined total
4. Keep record of particular interest codes for each CODEN.
5. Keep count of the number of different titles having a specified number of interest codes.
6. Find corresponding abbreviated title.
7. Print report 4.
8. Keep and print error statistics.
9. Create tapes for reports 5 and 6.

NAME
System U.S.O.E. REPORTS 4,5,6
Program
Module I0390029
Macro

ID
System I039
Program P110
Module
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS

PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
   - a. IBM 360 Model 50
2. I/O Devices (I0390029 and I0390030)
   - a. Two 2400 nine track tape drives
   - b. 2540 card reader
   - c. 1403 printer
3. Core Requirements
   - a. I0390029 (Mainline)
     - i. 17.4K
   - b. I0390030
     - i. .64K (without buffers)
     - ii. 15.2K (with buffers)
4. Other - None

B. Software

1. Operating System
   - a. IBM OS/360
2. CAS Modules Referenced (in both I0390029 and I0390030)
   - a. $CAROL
   - b. STDSYNAD
   - c. RDOCDEN
   - d. I0390030
3. Execution time - 4 minutes per 24 records
4. Other - None

kad

CHEMICAL ABSTRACTS SERVICE Systems Development DOCUMENTATION MANUAL	NAME System Program Module Macro	U.S.O.E. Reports 4,5,6 I0390030	ID System Program Module Macro	I039 P110
	TOPIC	PURPOSE AND ABSTRACT	PAGE	

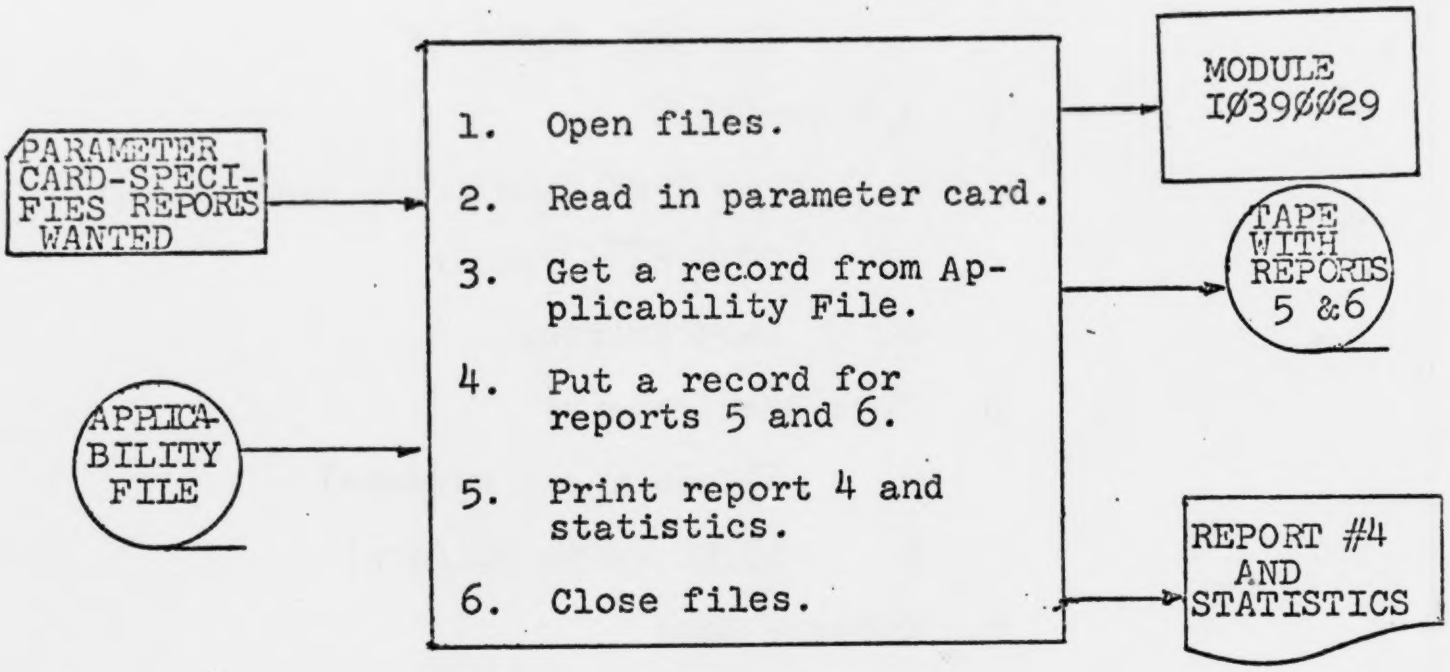
I. PURPOSE

The purpose of I0390030 is to control the input/output for module I0390029.

II. ABSTRACT

I0390030 opens and closes files, reads in a card, reads in records from tape, and prints records when called by I0390029 (Mainline).

III. SUMMARY CHART


PARAMETER CARD-SPECIFIES REPORTS WANTED
APPLICABILITY FILE
MODULE I0390029
TAPE WITH REPORTS 5 &6
REPORT #4 AND STATISTICS

1. Open files.
2. Read in parameter card.
3. Get a record from Applicability File.
4. Put a record for reports 5 and 6.
5. Print report 4 and statistics.
6. Close files.

CHEMICAL ABSTRACTS SERVICE
Systems Development
DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 4,5,6
Program
Module I0390030
Macro

ID
System I039
Program P110
Module
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS
PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    a. IBM 360, Model 50
2. I/O Devices
    a. Two 2400 nine track tape drives
    b. 2540 card reader
    c. 1403 printer
3. Core Requirements
    a. 64K (without buffers)
    b. 15.2K (with buffers)
4. Other - None

B. Software

1. Operating System
    a. IBM OS/360
2. CAS Modules Referenced

    None
3. Execution Time
    a. Not applicable
4. Other Entry Points
    a. DCBTAPOT
5. External References
    a. BADIO

kad
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CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. Reports 4,5,6	System	I039
Program		Program	P110
Module	I0390044	Module	
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of I0390044 is to control the input/output for module I0390029.

II. ABSTRACT

I0390044 like I0390030 opens and closes files, reads in a card, reads in records from tape, and prints records when called by I0390029 (Mainline).

The tape records are scanned for data element 002901. If the 43rd byte is "on" in the data element, the data in this data element is reformated and the new record is given to the mainline else the record is ignored. No statistics reflect the number of records ignored.

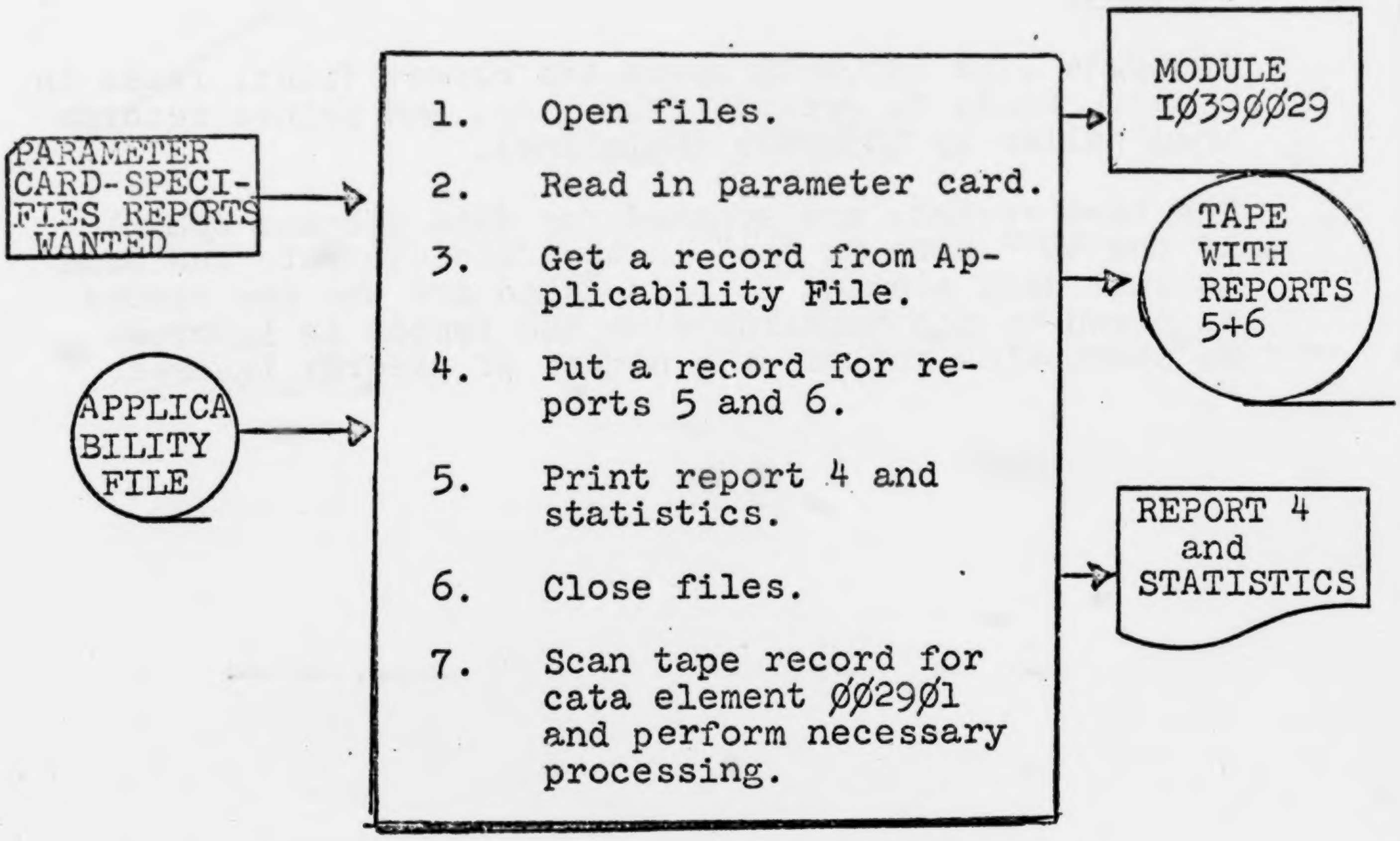
NAME
System U.S.O.E. REPORTS 4,5,6
Program
Module I0390044
Macro

ID
System I039
Program P110
Module
Macro

TOPIC SUMMARY CHART

PAGE

III. SUMMARY CHART



1. Open files.
2. Read in parameter card.
3. Get a record from Applicability File.
4. Put a record for reports 5 and 6.
5. Print report 4 and statistics.
6. Close files.
7. Scan tape record for cata element 002901 and perform necessary processing.

PARAMETER CARD-SPECIFIES REPORTS WANTED
APPLICABILITY FILE
MODULE I0390029
TAPE WITH REPORTS 5+6
REPORT 4 and STATISTICS

CHEMICAL ABSTRACTS SERVICE
Systems Development
DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 4,5,6
Program
Module I0390044
Macro

ID
System I039
Program P110
Module
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS
PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    a. IBM 360, Model 50
2. I/O Devices
    a. Two 2400 nine track tape drives
    b. 2540 card reader
    c. 1403 printer
3. Core Requirements
    a. 64K (without buffers)
    b. 15.2K (with buffers)
4. Other - None

B. Software

1. Operating System
    a. IBM OS/360
2. CAS Modules Referenced

    None
3. Execution Time
    a. Not applicable
4. Other Entry Points
    a. DCBTAPOT
5. External References
    a. BADIO

CHEMICAL ABSTRACTS SERVICE **Systems Development**	*NAME*		*ID*	
	System	U.S.O.E. REPORT 4,5,6	*System*	I039
	Program	SORT	*Program*	P120
	Module		*Module*	
	Macro		*Macro*	
DOCUMENTATION MANUAL	*TOPIC*	PURPOSE AND ABSTRACT	*PAGE*	-

I. PURPOSE

The purpose of this program is to sort according to sort-key, title, and line number the records output by I039.P110 for reports 5 and 6 of the U.S.O.E. Contract.

II. ABSTRACT

This sort program is the CAS modification of the IBM OS/360 SORT/MERGE, see Modifications to OS/360 SORT/MERGE, Edgecomb, G.D., January 14, 1969, for a complete description.

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer

   IBM 360, Model 50

2. I/O Devices

   Six 9-track tape drives

3. Core Requirements - 88K

4. Other - None

B. Software

1. Operating System

   IBM OS/360

2. CAS Modules Referenced - None

3. Execution Time - Unknown

4. Other - None

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME System	U.S.O.E. REPORTS 4,5,6	**ID** System	I039
Program		Program	P125
Module	I03900031	Module	
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	**PAGE**	- -

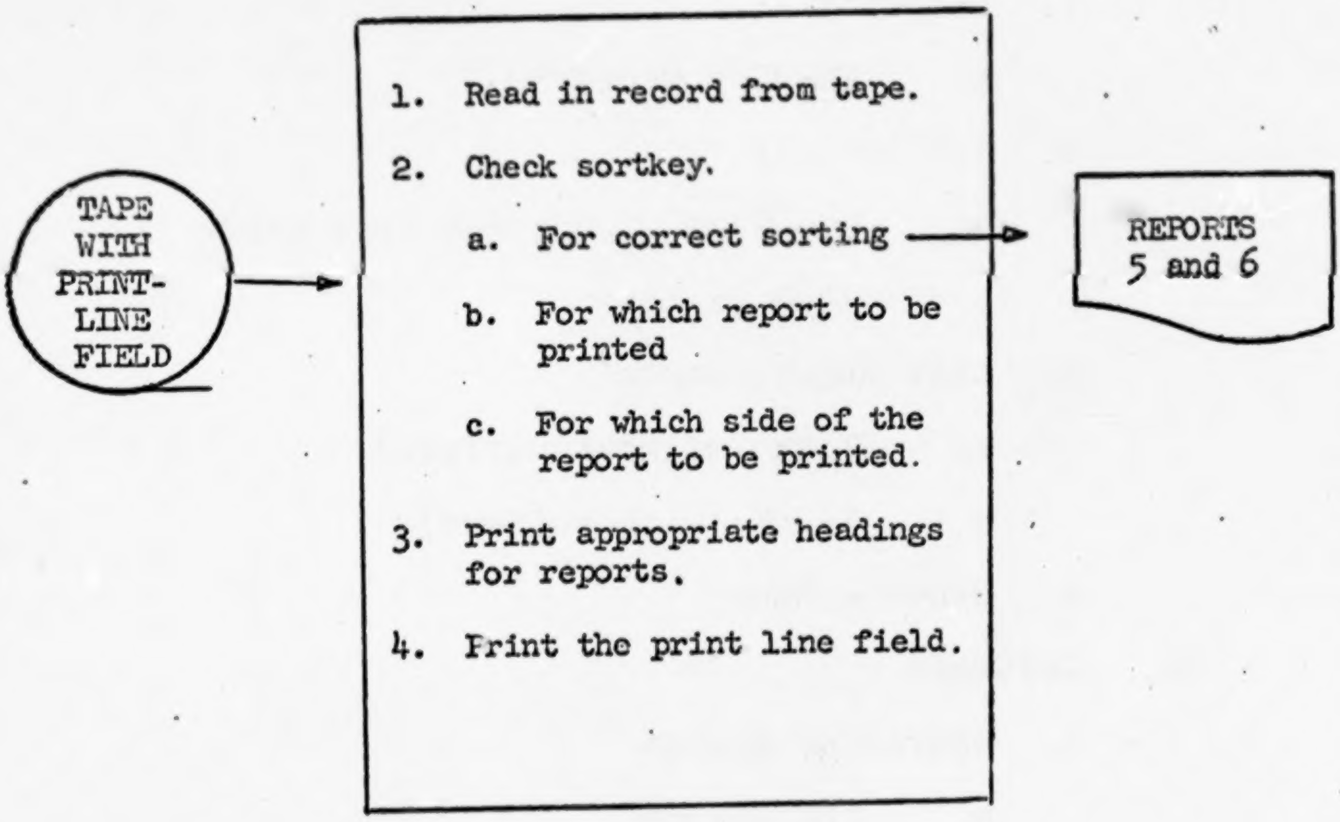
I. PURPOSE

The purpose of I03900031 is to print reports 5 and 6 of the U.S.O.E. Contract.

II. ABSTRACT

Given a sorted tape of records containing a print line field, I03900031 will print out the appropriate headings and the print line fields.

III. SUMMARY CHART



1. Read in record from tape.
2. Check sortkey.
   a. For correct sorting
   b. For which report to be printed
   c. For which side of the report to be printed.
3. Print appropriate headings for reports.
4. Print the print line field.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 4,5,6
Program
Module I0390031
Macro

ID
System I039
Program P125
Module
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS

PAGE - -

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    - a. IBM 360 Model 50
2. I/O Devices
    - a. One 2400 nine track tape drive
    - b. 1403 printer
3. Core Requirements
    - a. 7.2K (without buffers)
    - b. 14.5K (with buffers)
4. Other - None

B. Software

1. Operating System
    - a. IBM OS/360
2. CAS Modules Referenced
    - a. STDSYNAD c. $CAROL
    - b. ALLPRINT
3. Execution Time
    - a. 6 min. per 100 records
4. Other

   None

kad
2/69

CHEMICAL ABSTRACTS SERVICE Systems Development DOCUMENTATION MANUAL	NAME System U.S.O.E. REPORTS 10,22 Program Module I0390026 Macro	ID System I039 Program P130 Module Macro	
	TOPIC PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

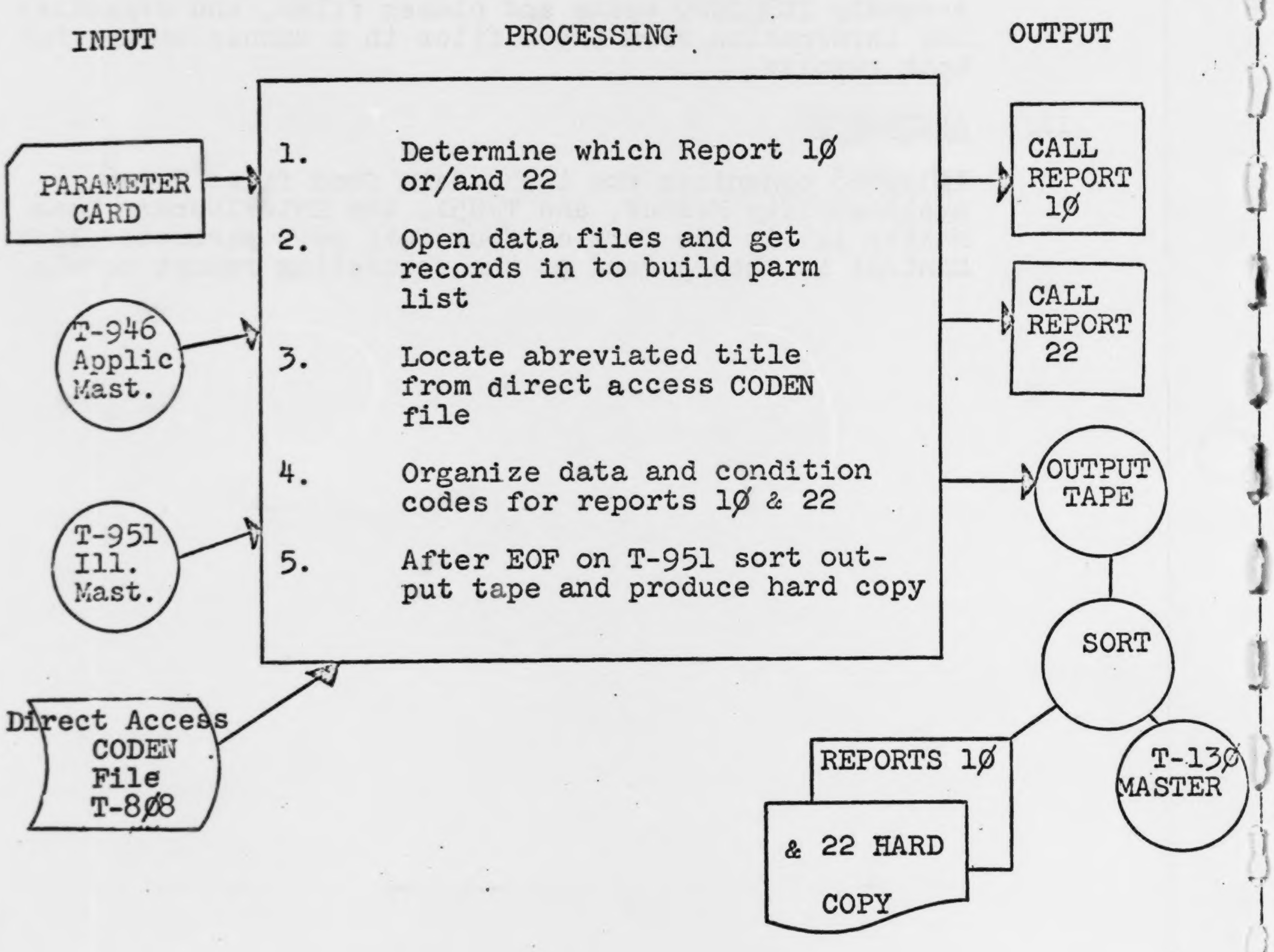
The primary purpose of I0390026 is to determine from the parameter card input which reports are to be generated; secondly I0390026 opens and closes files, and organizes the information from these files in a manner usable for both reports.

II. ABSTRACTS

I0390026 organizes the input data from files T-946, Applicability Master, and T-951, the Interlibrary Loan Master II, in the form of four full word parameter list. Control is then passed to the requesting report module.

NAME System	U.S.O.E. REPORTS 10,22	ID System	I039
Program		Program	P130
Module	I0390026	Module	
Macro		Macro	
TOPIC	SUMMARY CHART	PAGE	

III. SUMMARY CHART


INPUT
PROCESSING
OUTPUT
PARAMETER CARD
T-946 Applic Mast.
T-951 Ill. Mast.
Direct Access CODEN File T-808
CALL REPORT 10
CALL REPORT 22
OUTPUT TAPE
SORT
T-130 MASTER
REPORTS 10 & 22 HARD COPY

1. Determine which Report 10 or/and 22
2. Open data files and get records in to build parm list
3. Locate abreviated title from direct access CODEN file
4. Organize data and condition codes for reports 10 & 22
5. After EOF on T-951 sort output tape and produce hard copy

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 10,22
Program
Module I0390026
Macro

ID
System I039
Program P130
Module
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS

PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    a. IBM 360, Model 50 and higher
2. I/O Devices
    a. Three IBM 9-track tape drives model 2400
    b. One IBM Disk pack Model 2311 or 2314
    c. One IBM Model 2540 CARD READER
    d. One IBM Model 1403 Printer
3. Core Requirements
    a. I0390026 = 1884
4. Other - None

B. Software

1. Operating System
    a. IBM OS/360
2. CAS Modules Referenced
    a. RDCODEN
    b. JULDATE
    c. $CAROL
3. Exection Time
    a. Approximately min/master on 360/50
4. Other - None

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E REPORT 10
Program
Module I0390027
Macro

ID
System I039
Program P130
Module
Macro

TOPIC PURPOSE AND ABSTRACT

PAGE

I. PURPOSE

As its primary purpose I0390027 determines from the information passed by I0390026 whether or not there is sufficient information on both the Interlibrary Loan and Applicability files to generate the required output for this report.

II. ABSTRACT

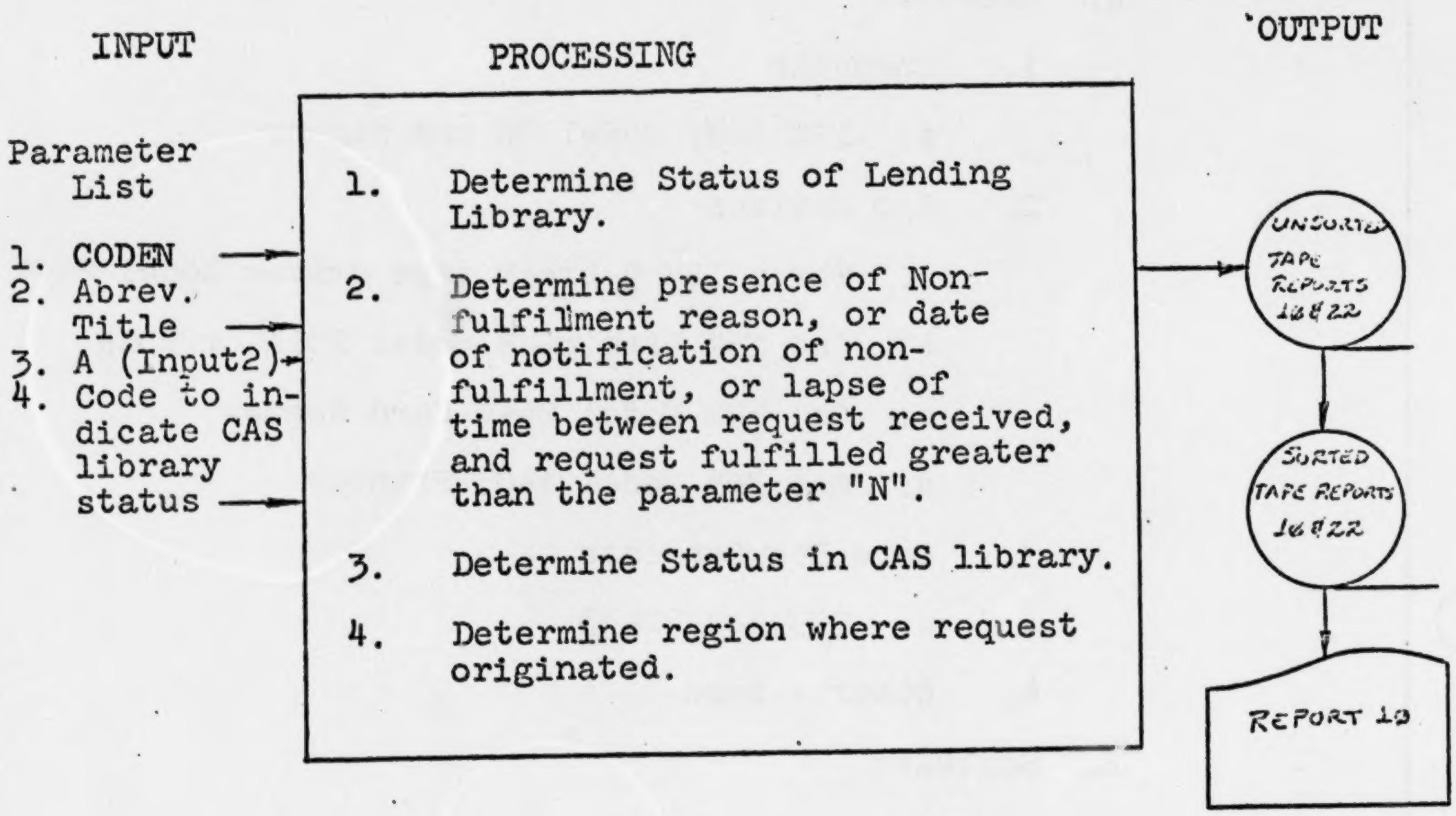
I0390027 receives and determines the status of the various parameters passed by I0390026 and proceeds to indicate their presence or absence in the form of a hard copy report.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORT 10	System	I039
Program		Program	P130
Module	I0390027	Module	
Macro		Macro	
TOPIC	SUMMARY CHART	PAGE	

III. SUMMARY CHART



INPUT

Parameter List

1. CODEN
2. Abrev. Title
3. A (Input2)
4. Code to indicate CAS library status

PROCESSING

1. Determine Status of Lending Library.
2. Determine presence of Non-fulfillment reason, or date of notification of non-fulfillment, or lapse of time between request received, and request fulfilled greater than the parameter "N".
3. Determine Status in CAS library.
4. Determine region where request originated.

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
   a. IBM 360, Model 50 and higher
2. I/O Devices
   a. Three IBM 9-track tape drives model 2400
   b. One IBM Disk pack Model 2311 or 2314
   c. One IBM Model 2540 Card Reader
   d. One IBM Model 1403 Printer
3. Core Requirements
   a. I0390027=2933
4. Other - None

B. Software

1. Operating System
   a. IBM OS/360
2. CAS Modules Referenced
   a. RDCODEN
   b. JULDATE
   c. $CAROL
3. Execution Time
   a. Approximately (3 spaces) min/master on 360/50
4. Other - None

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORT 22	System	I039
Program		Program	P130
Module	I0390028	Module	
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

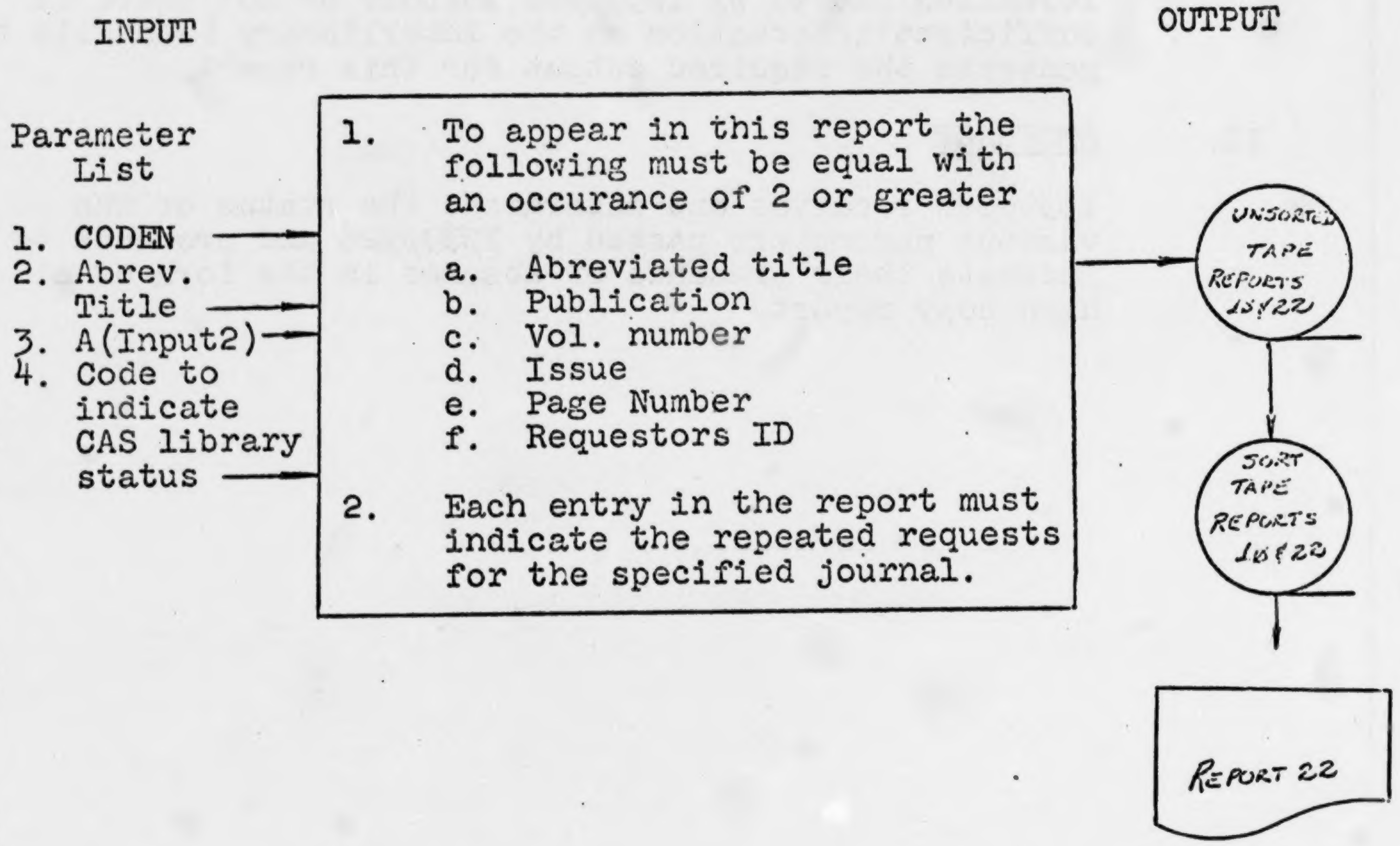
As its primary purpose I0390028 determines from the information passed by I0390026 whether or not there is sufficient information on the Interlibrary Loan File to generate the required output for this report.

II. ABSTRACT

I0390028 receives and determines the status of the various parameters passed by I0390026 and proceeds to indicate their presence or absence in the form of a hard copy report.

kad
1/69

III. SUMMARY CHART


INPUT
OUTPUT
UNSORTED TAPE REPORTS 18/22
SORT TAPE REPORTS 18/22
REPORT 22

Parameter List

1. CODEN
2. Abrev. Title
3. A(Input2)
4. Code to indicate CAS library status

1. To appear in this report the following must be equal with an occurance of 2 or greater

    a. Abreviated title
    b. Publication
    c. Vol. number
    d. Issue
    e. Page Number
    f. Requestors ID

2. Each entry in the report must indicate the repeated requests for the specified journal.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORT 22	System	I039
Program		Program	P130
Module	I0390028	Module	
Macro		Macro	
TOPIC	COMPUTING SYSTEM REQUIREMENTS	PAGE	

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

  1. Computer

    a. IBM 360, Model 50 and higher

  2. I/O Devices

    a. Three IBM 9 track tape drives model 2400

    b. One IBM Disk pack Model 2311 or 2314

    c. One IBM Model 2540 card reader

    d. One IBM Model 1403 Printer

  3. Core Requirements

    a. I0390028 =

  4. Other - None

B. Software

  1. Operating System

    a. IBM OS/360

  2. CAS Modules Referenced

    a. RDCODEN

    b. JULDATE

    c. $CAROL

  3. Execution Time

    a. Approximately min/master on 360

kad
1/69

NAME
System U.S.O.E. REPORT 18
Program
Module I0390035
Macro

ID
System I039
Program P140
Module
Macro

TOPIC PURPOSE AND ABSTRACT

PAGE

I. PURPOSE

The purpose of I0390035 is to find the number of days elapsing in fulfilling or not fulfilling a request.

II. ABSTRACT

Module I0390068 passes to I0390035 the date the request was made and the date of fulfillment or the date of notification of non-fulfillment, whichever the case may be. I0390035 converts the form and finds the Julian dates. It returns a code to I0390068 which indicates which row of the report the statistic should be placed.

kad
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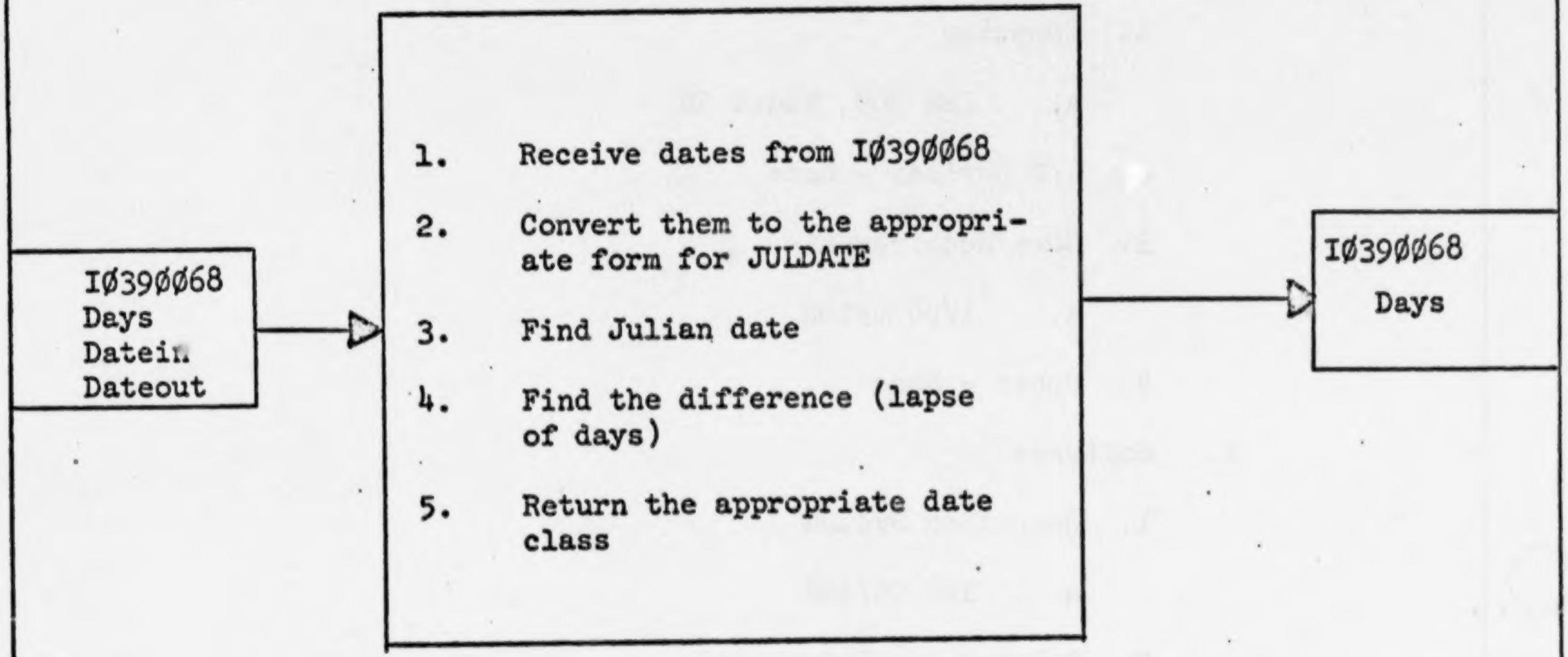
III. SUMMARY CHART



1. Receive dates from I0390068
2. Convert them to the appropriate form for JULDATE
3. Find Julian date
4. Find the difference (lapse of days)
5. Return the appropriate date class

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer

   a. IBM 360, Model 50

2. I/O Devices - None

3. Core Requirements

   a. 1096 bytes

4. Other - None

B. Software

1. Operating System

   a. IBM OS/360

2. CAS Modules Referenced

   None

3. Execution Time - Not applicable

4. Other

   Use the module JULDATE which is not on CASLIB

kad
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CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORT 18	System	I039
Program		Program	P140
Module	I0390068	Module	
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of I039.P140 is to gather information from the Interlibrary Loan File and to print report 18..

II. ABSTRACT

The Interlibrary Loan Master II File, which contains borrowing libraries, lending libraries, and corresponding information is input to I039.P140. Module I0390032 keeps statistics for each library regarding the date the request was filled or not filled. Module I0390035 calculates the number of days it took to process the request and returns it to I0390032. The statistics are kept in halfwords which comprise the table in module I0390070. At the end of the Interlibrary Loan File tape, Module I0390069 is called. This module adds region and national totals and prints report 18.

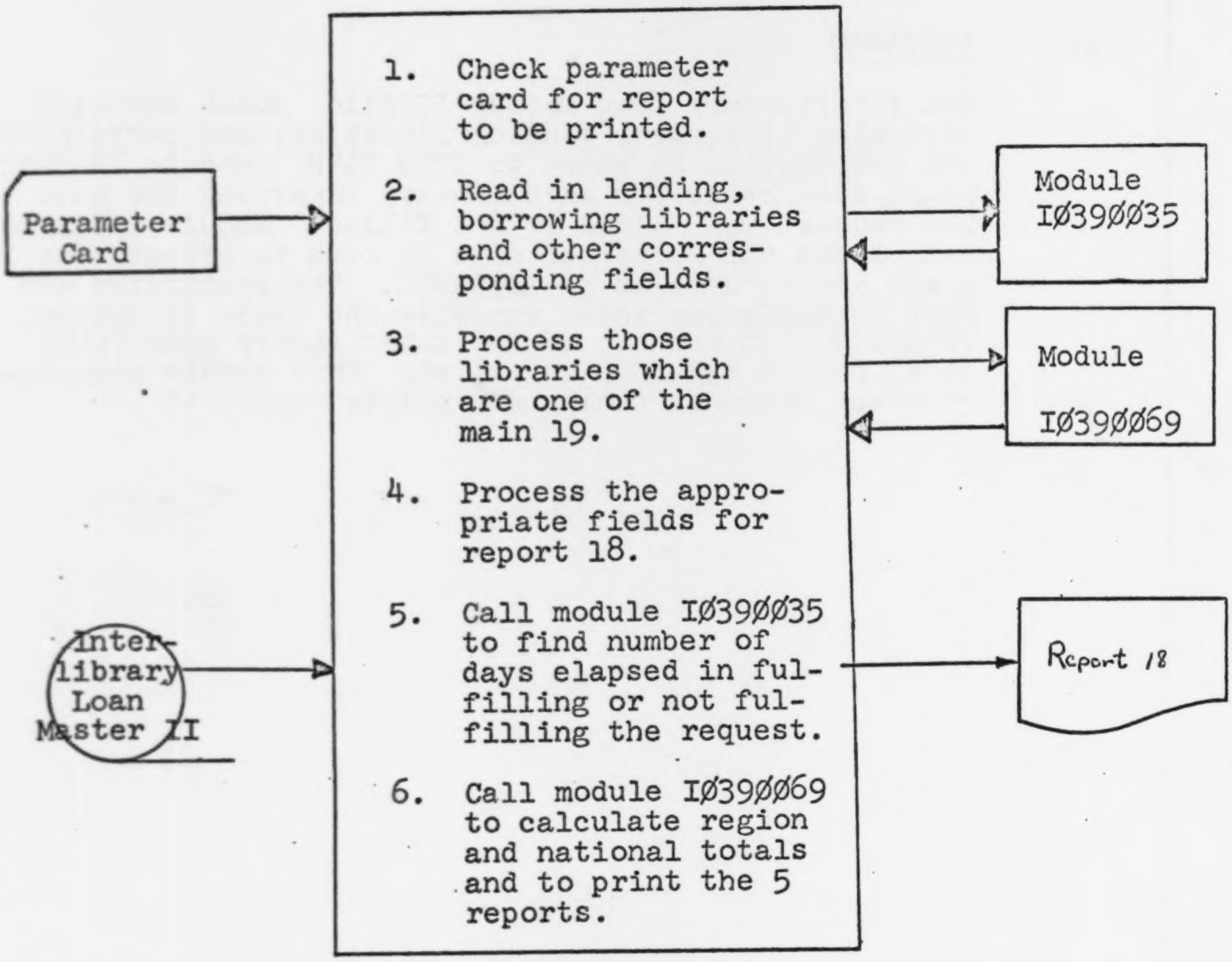
NAME
System U.S.O.E. REPORT 18
Program
Module I0390068
Macro

ID
System I039
Program P140
Module
Macro

TOPIC SUMMARY CHART

PAGE

III. SUMMARY CHART



1. Check parameter card for report to be printed.
2. Read in lending, borrowing libraries and other corresponding fields.
3. Process those libraries which are one of the main 19.
4. Process the appropriate fields for report 18.
5. Call module I0390035 to find number of days elapsed in fulfilling or not fulfilling the request.
6. Call module I0390069 to calculate region and national totals and to print the 5 reports.

Parameter Card
Inter-library Loan Master II
Module I0390035
Module I0390069
Report 18

KP:ls

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CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME System Program	U.S.O.E. REPORT 18	ID System	I039
Module	I0390068	Program	P140
Macro		Module Macro	
TOPIC	COMPUTING SYSTEM REQUIREMENTS	PAGE	

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
   a. IBM 360, Model 50
2. I/O Devices (I0390068 and I0390069)
   a. One 2400 nine track tape drive
   b. 2540 card reader
   c. 1403 printer
3. Core Requirements
   a. I0390068 (Mainline)
      i. 2.09K (without buffers)
      ii. 9.29K (with buffers)
   b. I0390070 (Tables)
      i. 29.4K
   c. I0390069 (Print)
      i. 8.33K (without buffers)
      ii. 8.59K (with buffers)
   d. I0390035
      i. 1096 bytes
4. Other - none

B. Software

1. Operating System
   a. IBM OS/360
2. CAS Modules Referenced (in both I0390068 and I0390069)
   a. $CAROL
   b. STDSYNAD
   c. ALLPRINT
   d. I0390069
   e. I0390070 (By Entry Points)
   f. I0390035

K ls

3/1969

65-155 (Rev 3/68)

3. Execution Time

Approximately 12 minutes per 70,000 records.

4. Other

External Reference

OUTAREA - Referenced in I0390068
- In I0390070

CHEMICAL ABSTRACTS SERVICE Systems Development DOCUMENTATION MANUAL	NAME System Program Module Macro	U.S.O.E REPORT 18 I0390069	ID System Program Module Macro	I039 P140
	TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of I0390069 is to find totals and print the U.S.O.E. Report 18.

II. ABSTRACT

Using the table of statistics (I0390070) created by module I0390068, I0390069 computes the region and national totals, prints the appropriate heading for the report, converts the statistics, and prints them in the correct format.

kad
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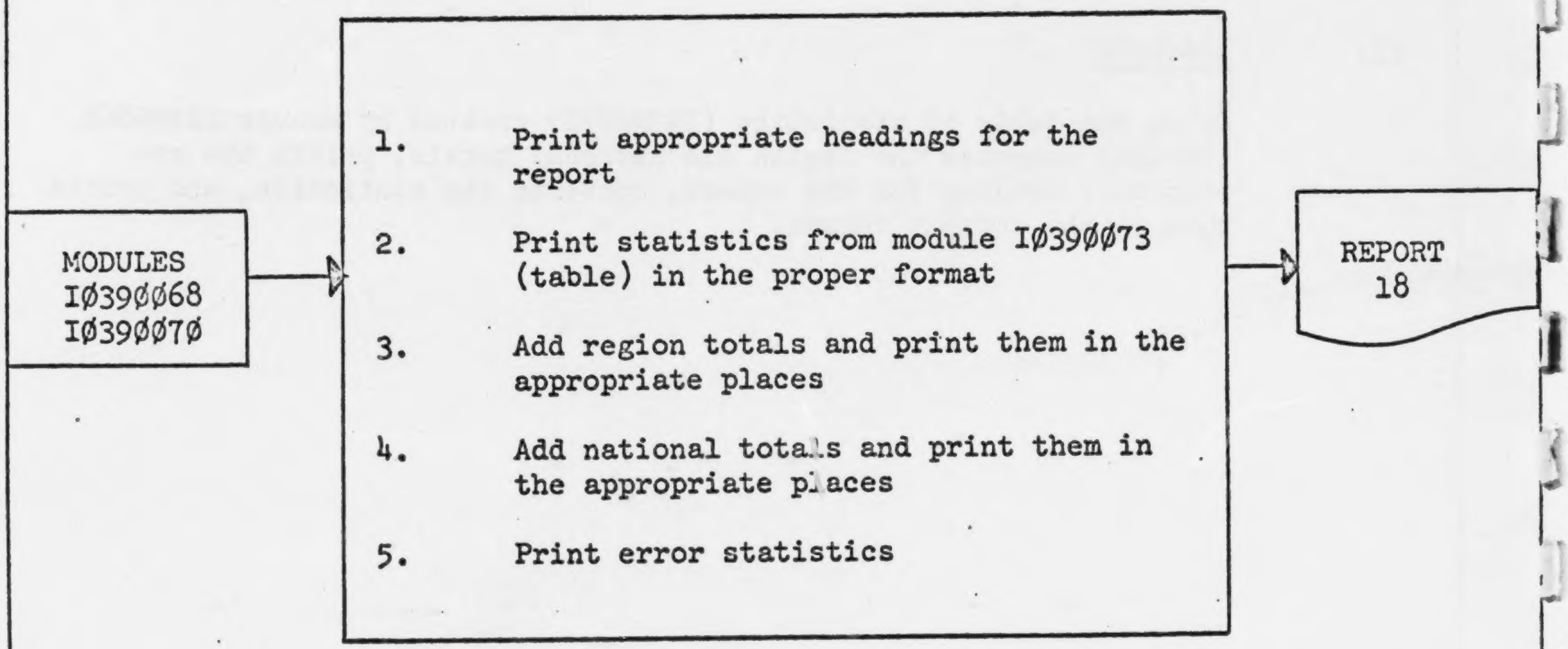
NAME
System U.S.O.E. REPORT 18
Program I0390069
Module
Macro

ID
System I039
Program P140
Module
Macro

TOPIC SUMMARY CHART

PAGE

III. SUMMARY CHART



1. Print appropriate headings for the report
2. Print statistics from module I0390073 (table) in the proper format
3. Add region totals and print them in the appropriate places
4. Add national totals and print them in the appropriate places
5. Print error statistics

kad
3/69

NAME
System U.S.O.E. REPORT 18
Program I0390069
Module
Macro

ID
System I039
Program P140
Module
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS

PAGE

IV. COMPUTING SYSTEM SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    a. IBM 360, Model 50
2. I/O Devices
    a. 1403 printer
3. Core Requirements
    a. 8.33K (without buffers)
    b. 8.59K (with buffers)
4. Other - None

B. Software

1. Operating System
    a. IBM OS/360
2. CAS Modules Referenced
    a. ALLPRINT
3. Execution Time - Not applicable
4. Other - None

kad
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NAME
System U.S.O.E. REPORT 18
Program
Module I0390070
Macro

ID
System I039
Program P140
Module
Macro

TOPIC PURPOSE AND ABSTRACT

PAGE

I. PURPOSE

The purpose of I0390070 is to be a table in which statistics will be held.

II. ABSTRACT

I0390070 is a table of halfwords containing statistics for nineteen libraries each of which are both lending and receiving libraries. Each of the thirty-eight lending and receiving libraries is set up to represent 399 halfwords for report 18.

kad
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III. SUMMARY CHART

Not applicable

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer

a. IBM 360, Model 50

2. I/O Devices - None

3. Core Requirements

a. 29.4K or 30, 124 bytes

4. Other - None

B. Software

1. Operating System

a. IBM OS/360

2. CAS Modules Referenced - None

3. Execution Time - Not applicable

4. Other Entry Points

a. RLIB1
b. LLIB1
c. RLIB2
d. LLIB2
e. RLIB3
f. LLIB3
g. RLIB4
h. LLIB4
i. RLIB5
j. LLIB5
k. RLIB6
l. LLIB6
m. RLIB7
n. LLIB7
o. RLIB8
p. LLIB8
q. RLIB9
r. LLIB9
s. RLIB10
t. LLIB10
u. RLIB11
v. LLIB11
w. RLIB12
x. LLIB12
y. RLIB13
z. LLIB13
aa. RLIB14
bb. LLIB14
cc. RLIB15
dd. LLIB15
ee. RLIB16
ff. LLIB16
gg. RLIB17
hh. LLIB17
ii. RLIB18
jj. LLIB18
kk. RLIB19
ll. LLIB19
mm. START
nn. END
oo. OUTAREA

kad 2/69

NAME
System U.S.O.E. REPORT 13
Program
Module I0390071
Macro

ID
System I039
Program P180
Module
Macro

TOPIC PURPOSE AND ABSTRACT
PAGE

I. PURPOSE

The purpose of I039.P180 is to gather information from the Interlibrary Loan File and to print report 13.

II. ABSTRACT

The Interlibrary Loan Master II File, which contains borrowing libraries, lending libraries, and corresponding information is input to I039.P180, Module I0390071 keeps statistics for each library regarding the language of the item requested. The statistics are kept in halfwords which comprise the table in module I0390073. At the end of the Interlibrary Loan File tape, module I0390072 is called to add region and national totals and to print report 13.

kad
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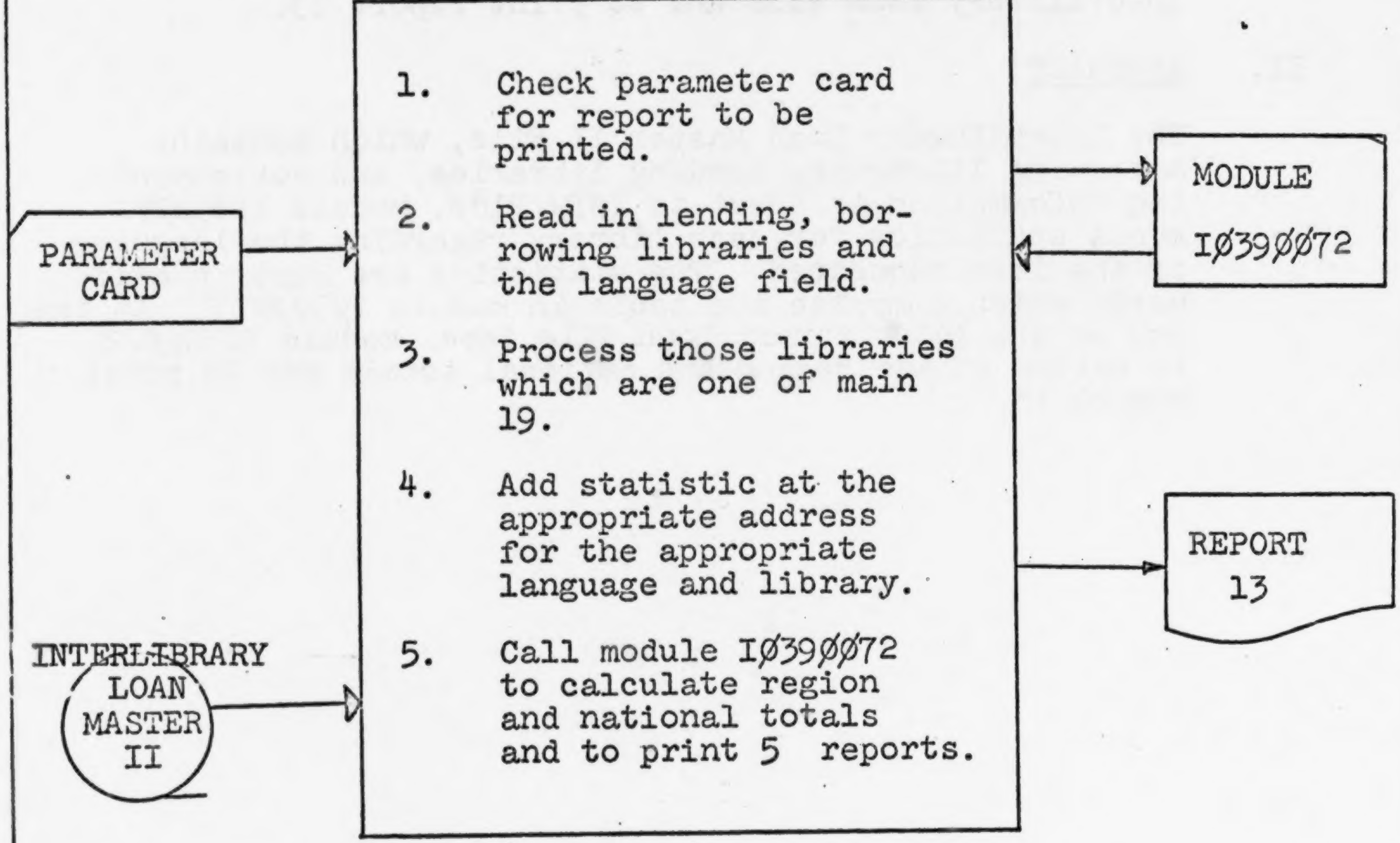
NAME
System U.S.O.E. REPORT 13
Program
Module I0390071
Macro

ID
System I039
Program P180
Module
Macro

TOPIC SUMMARY CHART

PAGE

III. SUMMARY CHART


PARAMETER CARD
INTERLIBRARY LOAN MASTER II
MODULE I0390072
REPORT 13

1. Check parameter card for report to be printed.
2. Read in lending, borrowing libraries and the language field.
3. Process those libraries which are one of main 19.
4. Add statistic at the appropriate address for the appropriate language and library.
5. Call module I0390072 to calculate region and national totals and to print 5 reports.

kad
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IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    a. IBM 360, Model 50
2. I/O Devices (I0390071 and I0390072)
    a. One 2400 nine track tape drive
    b. 2540 card reader
    c. 1403 printer
3. Core Requirements
    a. I0390071 (Mainline)
        i. 2.32K (without buffers)
        ii. 9.51K (with buffers)
    b. I0390072 (Print)
        i. 8.86K(without buffers
        ii. 9.11K (with buffers)
    c. I0390073 (Tables)
        i. 57.9K
4. Other - None

B. Software

1. Operating System
    a. IBM OS/360
2. CAS Modules Referenced (in both I0390071 and I0390072)
    a. $CAROL
    b. STDSYNAD
    c.
    d. I0390072
    e. I0390073 (By Entry Points)

kad
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CHEMICAL ABSTRACTS SERVICE
Systems Development
DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORT 13	System	I039
Program		Program	P180
Module	I0390072	Module	
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of I0390072 is to find totals and print the U.S.O.E. Report 13.

II. ABSTRACT

Using the table of statistics (I0390073) created by module I0390071, I0390072 computes the region and national totals, prints the appropriate heading for the report, converts the statistics, and prints them in the correct format.

P:ls

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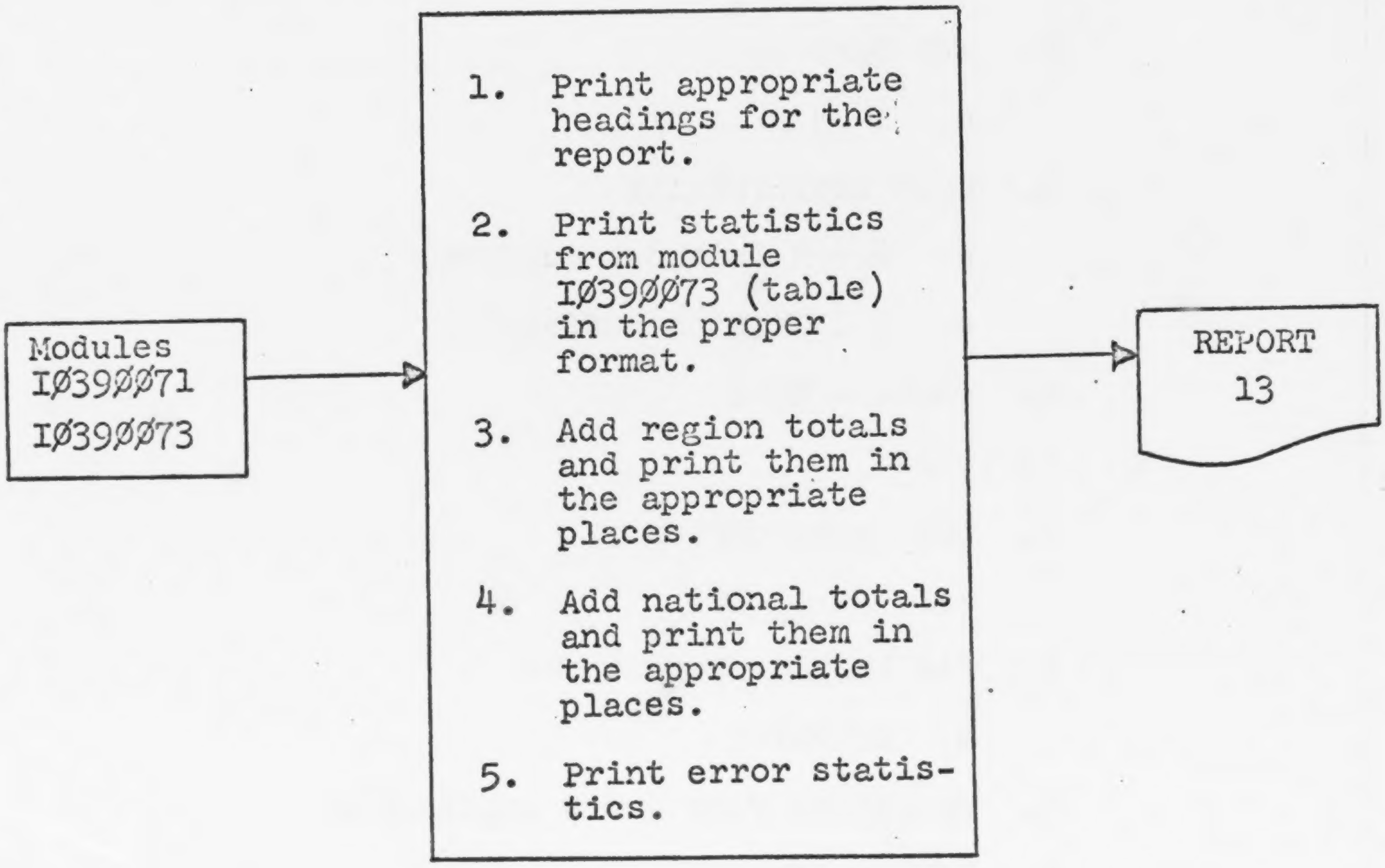
NAME System U.S.O.E. REPORT 13
Program
Module I0390072
Macro

ID System I039
Program P180
Module
Macro

TOPIC SUMMARY CHART

PAGE

III. SUMMARY CHART



1. Print appropriate headings for the report.
2. Print statistics from module I0390073 (table) in the proper format.
3. Add region totals and print them in the appropriate places.
4. Add national totals and print them in the appropriate places.
5. Print error statistics.

CHEMICAL ABSTRACTS SERVICE Systems Development DOCUMENTATION MANUAL	NAME		ID	
	System	U.S.O.E. REPORT 13	System	I039
	Program		Program	P180
	Module	I0390072	Module	
	Macro		Macro	
	TOPIC	COMPUTING SYSTEM REQUIREMENTS	PAGE	

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
   - a. IBM 360, Model 50
2. I/O Devices
   - a. 1403 printer
3. Core Requirements
   - a. 8.86K (without buffers)
   - b. 9.11K (with buffers)
4. Other - None

B. Software

1. Operating System
   - a. IBM OS/360
2. CAS Modules Referenced
   - a. ALLPRINT
3. Execution Time - Not applicable
4. Other - None

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME System	U.S.O.E. REPORT 13	ID System	I039
Program		Program	P180
Module	I0390073	Module	
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of I0390073 is to be a table in which statistics are kept.

II. ABSTRACT

I0390073 is a table of halfwords containing statistics for nineteen libraries, each of which are considered lending and borrowing libraries. Each of the thirty-eight lending and receiving libraries is set up to represent 777 halfwords for report 13.

kad
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CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORT 13	System	I039
Program		Program	P180
Module	I0390073	Module	
Macro		Macro	
TOPIC	SUMMARY CHART	PAGE	

III. SUMMARY CHART

Not applicable

kad
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IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer
    - a. IBM 360, Model 50
2. I/O Devices - None
3. Core Requirements
    - a. 57.9K or 59052 bytes
4. Other - None

B. Software

1. Operating System
    - a. IBM OS/360
2. CAS Modules Referenced - None
3. Execution Time - Not applicable
4. Other Entry Point

a. RLIB1
b. LLIB1
c. RLIB1
d. LLIB2
e. RLIB3
f. LLIB3
g. RLIB4
h. LLIB4
i. RLIB5
j. LLIB5
k. RLIB6
l. LLIB6
m. RLIB7
n. LLIB7
o. RLIB8
p. LLIB8
q. RLIB9
r. LLIB9
s. RLIB10
t. LLIB10
u. RLIB11
v. LLIB11
w. RLIB12
x. LLIB12
y. RLIB13
z. LLIB13
aa. RLIB14
bb. LLIB14
cc. RLIB15
dd. LLIB15
ee. RLIB16
ff. LLIB16
gg. RLIB17
hh. LLIB17
ii. RLIB18
jj. LLIB18
kk. RLIB18
ll. LLIB19
mm. OUTAREA
nn. START
OO. END

kad
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CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS	System	I039
Program		Program	P184
Module	I0390039, I0390040	Module	
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of P180 is to produce any combination of eight U.S. Office of Education Reports (Reports 19, 20,23,24,25,26,27, and a special report) from the data contained in the Interlibrary Loan File.

II. ABSTRACT

Each record of the Interlibrary Loan file is scanned for information relevant to each of the selected reports. Information thus found is used to update frequency counters. When the file is exhausted, the counters are used to generate the reports.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

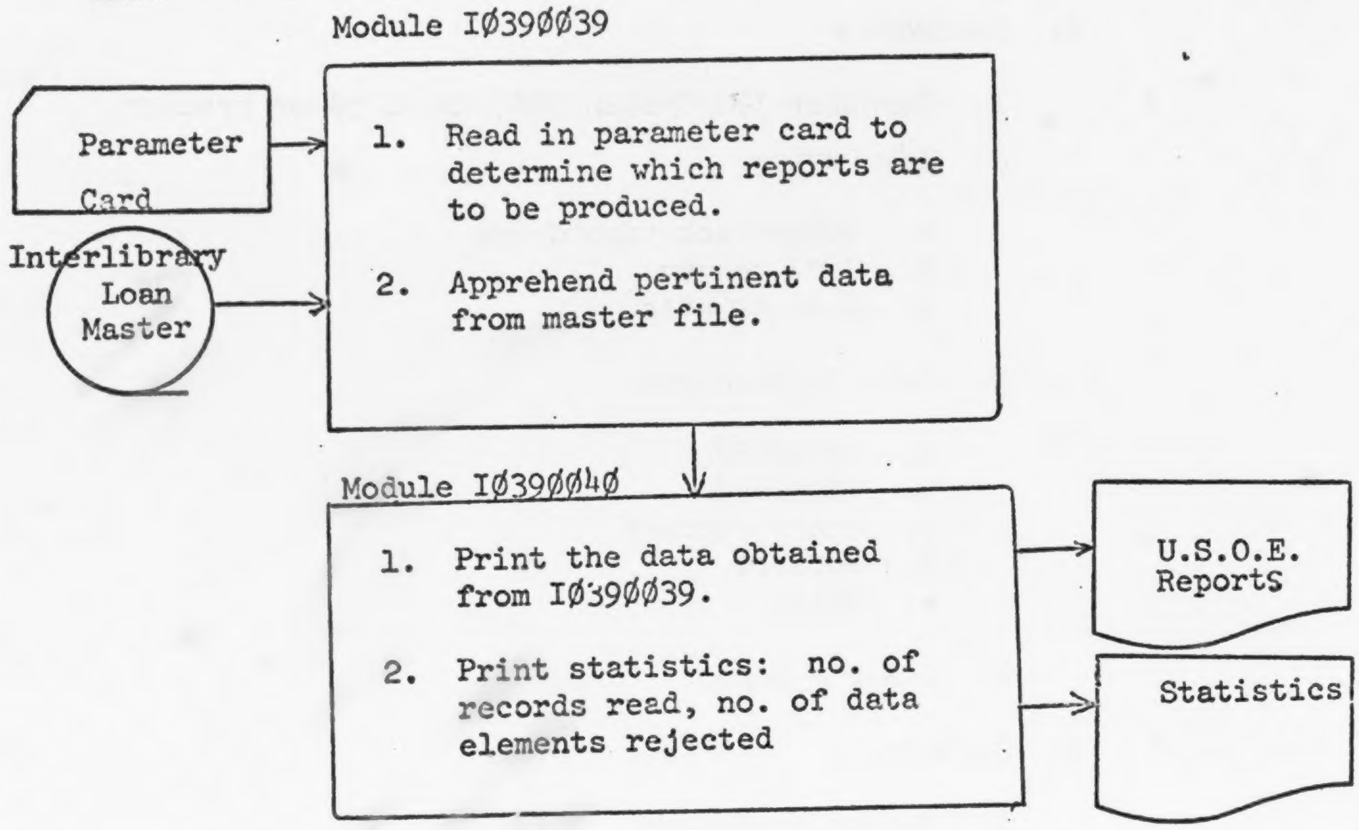
NAME
System U.S.O.E. REPORTS
Program
Module I0390039, I0390040
Macro

TOPIC SUMMARY CHART

ID
System I039
Program P184
Module
Macro --

PAGE

III. SUMMARY CHART:


Module I0390039
Parameter Card
Interlibrary Loan Master
Module I0390040
U.S.O.E. Reports
Statistics

1. Read in parameter card to determine which reports are to be produced.
2. Apprehend pertinent data from master file.

1. Print the data obtained from I0390039.
2. Print statistics: no. of records read, no. of data elements rejected

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS
Program
Module I0390039, I0390040
Macro

ID
System I039
Program P184
Module
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS.

PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. Computer IBM System 360, Model 50 or greater.
2. I/O Devices
    a. Nine-track tape drive
    b. Card reader
    c. Line printer
3. Core Requirements
    a. I0390039
    b. I0390040
    c. Other modules
    d. Buffers
    e. Total
4. Other - None

B. Software

1. Operating System: OS/360, MFT-II
2. CAS modules referenced: $CAROL.
3. Execution time:

5. Other - None

NAME
System U.S.O.E. REPORT 21
Program
Module I0390042
Macro

ID
System I039
Program P185
Module
Macro

TOPIC PURPOSE AND ABSTRACT

PAGE

I. PURPOSE

The purpose of I039.P185 is to produce U.S.O.E. Report number 21 from the Interlibrary Loan File.

II. ABSTRACT

P185 provides a breakdown of request transmittal time, cross-referenced by state generating request vs. library and region receiving request. P185 consists of two modules, I0390042, and "JULDATE," Y044.

3/1969

JC:ls

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

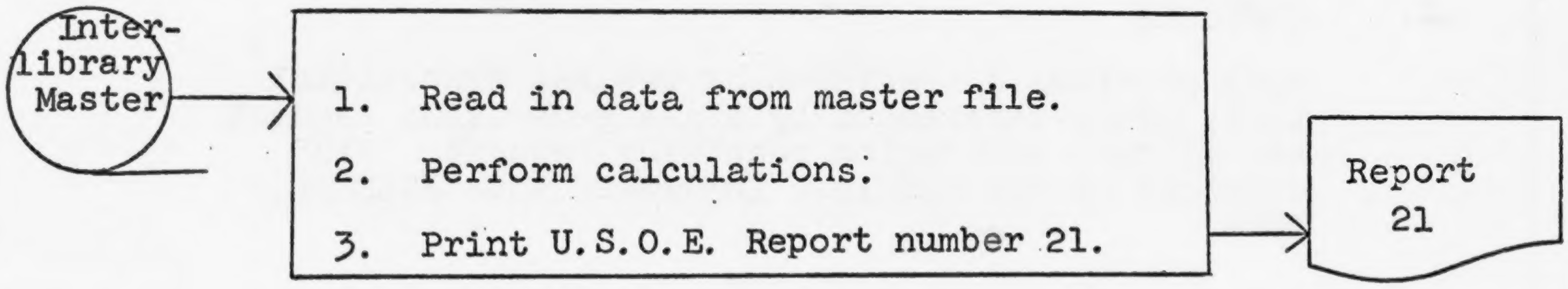
NAME
System U. S O.E. REPORT 21
Program
Module I0390042
Macro

ID
System I039
Program P185
Module
Macro

TOPIC SUMMARY CHART

PAGE

III. SUMMARY CHART


Inter-library Master
1. Read in data from master file.
2. Perform calculations.
3. Print U.S.O.E. Report number 21.
Report 21

3/1969

JC:ls

CHEMICAL ABSTRACTS SERVICE
Systems Development
DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 30,31,32,33,34,35
Program
Module MAIN LINE
Macro

ID
System I039
Program I039.P190
Module I0390058
Macro

TOPIC PURPOSE AND ABSTRACT
PAGE

I. PURPOSE

The purpose of this module is to provide main line control for the generation of reports 30,31,32,33,34,35.

II. ABSTRACT

This module provides the main line control for the program. It sets the switches for those reports requested and calls the various processing modules as they are required.

General program documentation is included here.

K.3:ls

2-1969

IV. COMPUTING SYSTEM REQUIREMENTS

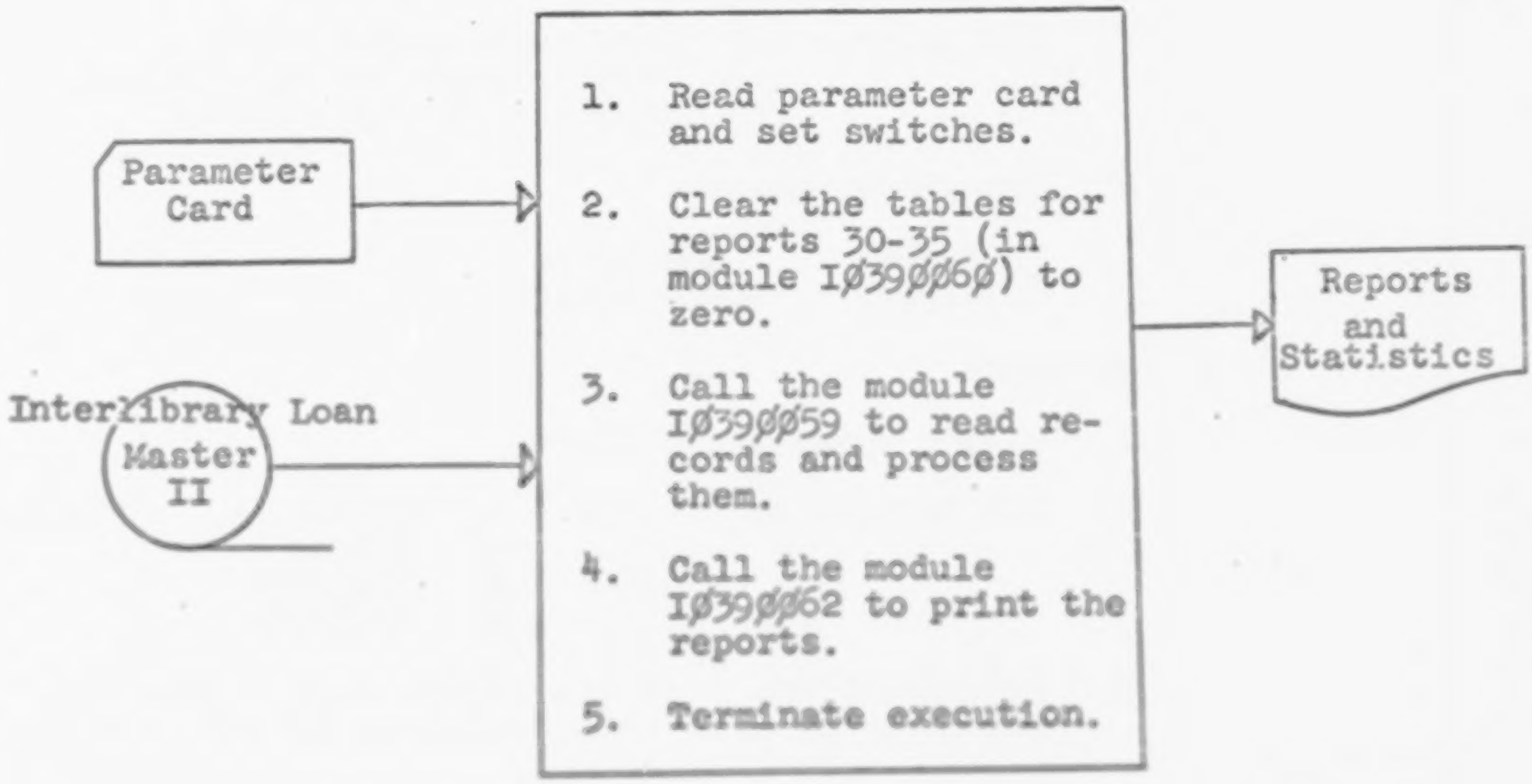
A. Hardware

1. Computer: IBM System/360, Model 50 or greater
2. I/O Devices
    a. Nine-track tape drive
    b. Card reader
    c. Line printer (1403)
3. Core Requirements
    a. I03900042
    b. JULDATE
    c. Buffers
    d. Total
4. Other - None

B. Software

1. Operating System - OS/360, MFT-II
2. CAS Modules Referenced - $CAROL
3. Execution Time - (2 blank lines - JC.)
4. Other - None

III. SUMMARY CHART


Parameter Card
Interlibrary Loan Master II
Reports and Statistics

1. Read parameter card and set switches.
2. Clear the tables for reports 30-35 (in module I0390060) to zero.
3. Call the module I0390059 to read records and process them.
4. Call the module I0390062 to print the reports.
5. Terminate execution.

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer

2. I/O Devices - 1 2540 card reader
   1 1403 printer (regular chain)
   1 2400 9 track tape drive

3. Core Requirements

   I0390058 - 532 bytes
   I039.P190 - 46008 bytes

B. Software

1. OS/360 Operating System

2. CAS Modules Referenced - a. $CAROL, b. STDSYNAD
   c. I0390059
   d. I0390062
   e. SAURBORN

3. Execution time - 15 min. (I039.P190). The Interlibrary Loan File contained 70,000 records.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U. S. O. E. REPORTS 30,31,32,33,34,35
Program
Module
Macro

ID
System I039
Program I039.P190
Module I0390059
Macro

TOPIC PURPOSE AND ABSTRACT

PAGE

I. PURPOSE

The purpose of this module is to determine which records from the Interlibrary Loan Master File II are relevant to reports 30-35, and perform the basic processing common to each of these reports.

II. ABSTRACT

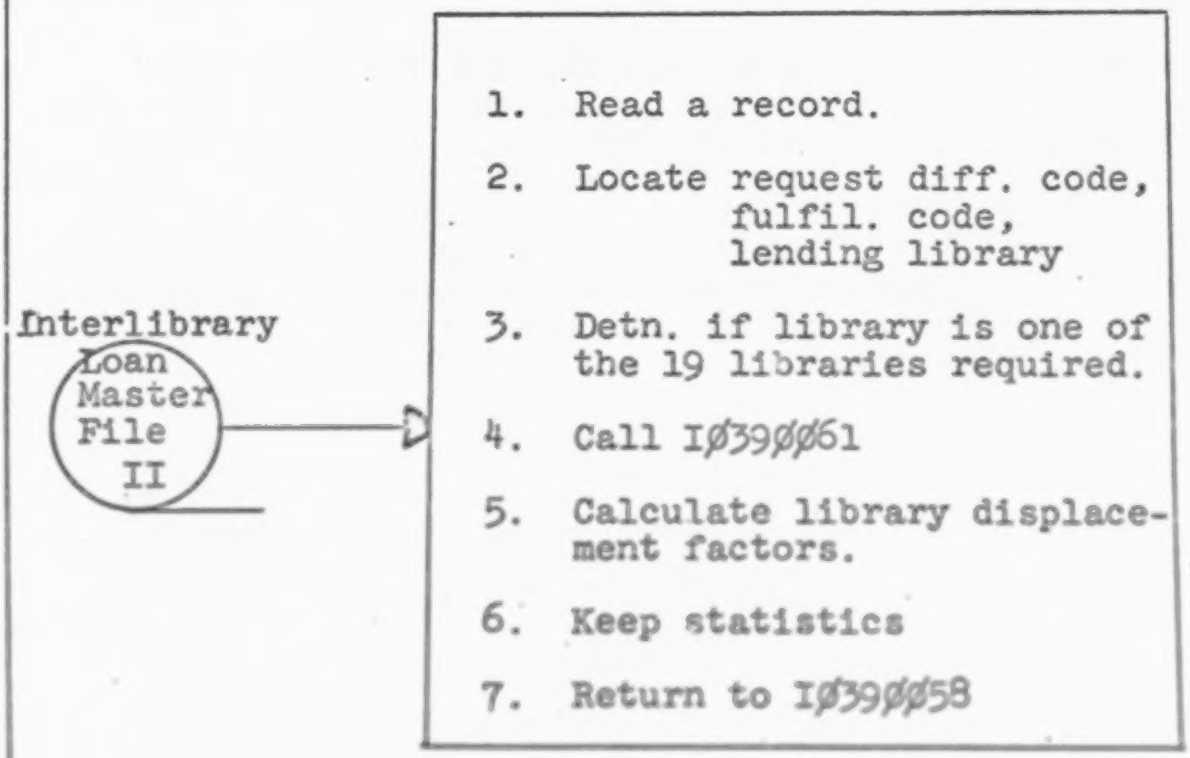
This module reads records from the Interlibrary Loan Master File II and attempts to locate the three data elements required by all of the reports. If any of these data elements is missing, the record is skipped. Otherwise, the module I0390061 is called (to determine lapsed time between two dates). Table displacement factors are calculated for the lending library, and the module I0390060 is called to update the tables for the reports. Statistics are kept in this module.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME System	U.S.O.E. REPORTS 30,31,32,33,34,35	ID System	I039
Program		Program	I039.P190
Module		Module	I0390059
Macro		Macro	
TOPIC	SUMMARY CHART	PAGE	

III. SUMMARY CHART



1. Read a record.
2. Locate request diff. code,
   fulfil. code,
   lending library
3. Detn. if library is one of the 19 libraries required.
4. Call I0390061
5. Calculate library displacement factors.
6. Keep statistics
7. Return to I0390058

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. 2400 9-track tape drive
3. Core Requirements - 5094 bytes

B. Software

1. OS/360 Operating System (MFT)
2. CAS Modules Referenced -
    - a. $CAROL
    - b. STDSYNAD
    - c. I0390060
    - d. I0390061

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 30,31,32,33,34,35	System	I039
Program		Program	I039.P190
Module		Module	I0390060
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of this module is to build the tables from which reports 30-35 will be printed.

II. ABSTRACT

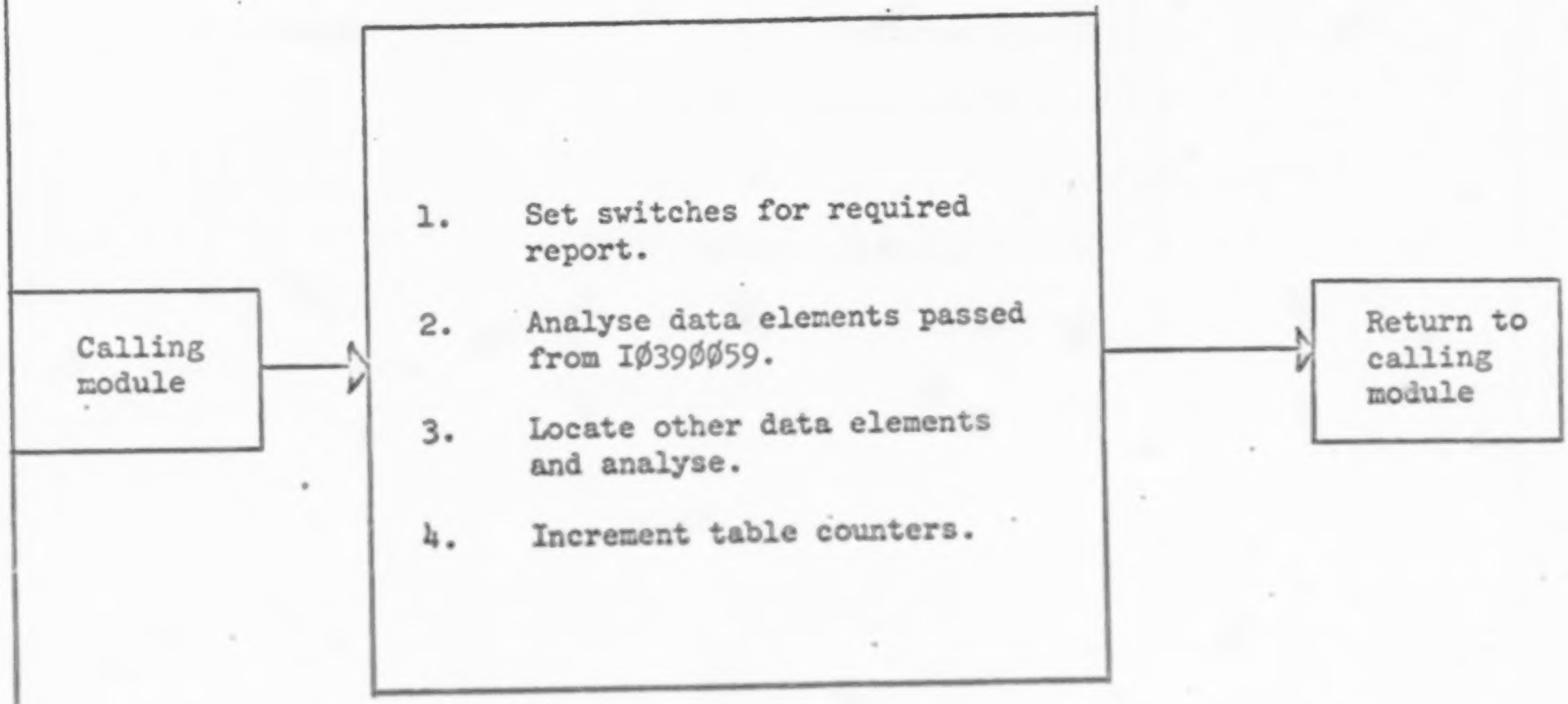
Data elements required for the building of the tables are located and analysed, and the counters in the tables are incremented.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		*ID*	
System	U.S.O.E. REPORTS 30,31,32,33,34,35	*System*	I039
Program		*Program*	I039.P190
Module		*Module*	I0390060
Macro		*Macro*	
TOPIC	SUMMARY CHART	*PAGE*	

III. SUMMARY CHART



1. Set switches for required report.
2. Analyse data elements passed from I0390059.
3. Locate other data elements and analyse.
4. Increment table counters.

[illegible] 3/69

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. No I/O Devices
3. Core Requirements - 36,116

B. Software

1. OS/360 operating system (MFT)
2. CAS Module Referenced - a. $CAROL

[illegible]

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 30,31,32,33,34,35
Program
Module
Macro

ID
System I039
Program I039.P190
Module I0390061
Macro

TOPIC PURPOSE AND ABSTRACT

PAGE

I. PURPOSE

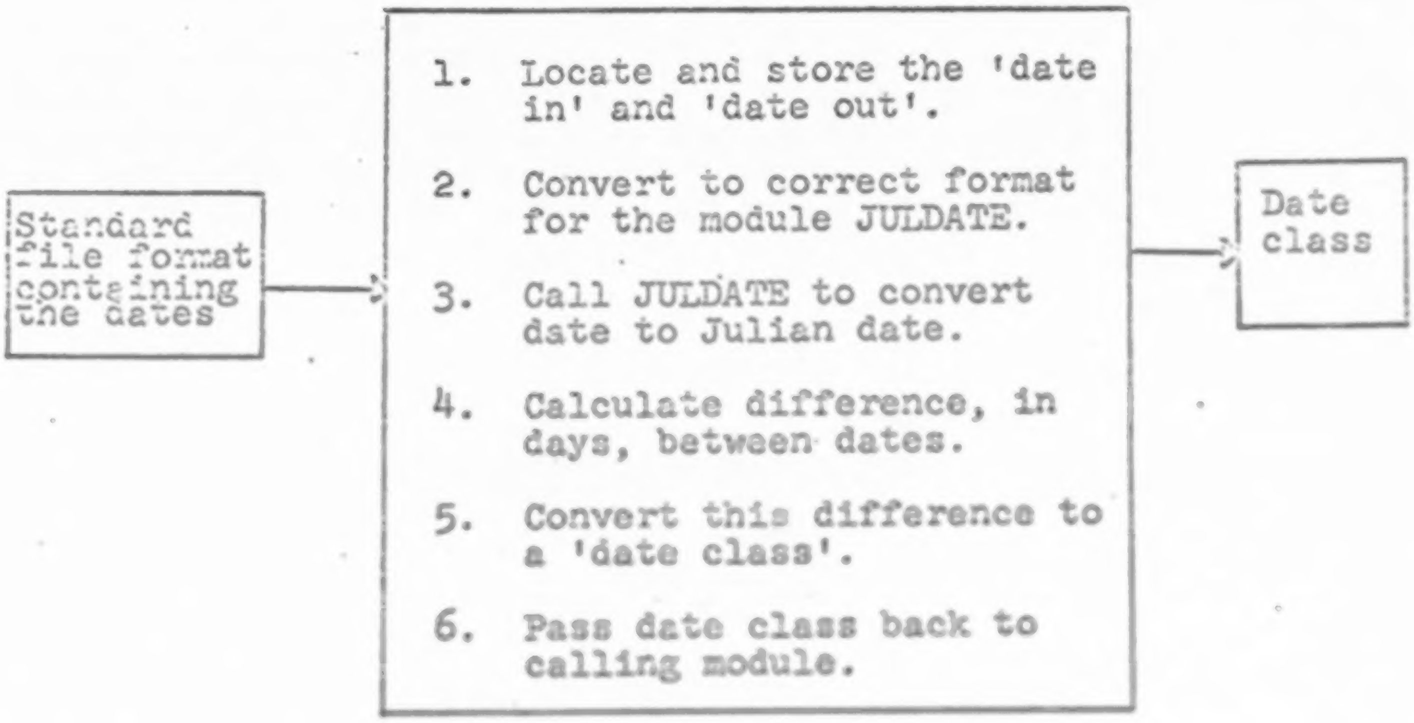
The purpose of this module is to calculate the difference, in days, between two dates and express this as a date class.

II. ABSTRACT

This module locates and stores the two dates (date of receipt of request and date of fulfillment of request) in a given record, and calculates the difference between them in days. This difference is then converted to a "date class" which is returned to the calling module.

KB:ls

III. SUMMARY CHART



1. Locate and store the 'date in' and 'date out'.
2. Convert to correct format for the module JULDATE.
3. Call JULDATE to convert date to Julian date.
4. Calculate difference, in days, between dates.
5. Convert this difference to a 'date class'.
6. Pass date class back to calling module.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 30,31,32,33,34,35
Program
Module
Macro

ID
System I039
Program I039.P190
Module I0390021
Macro

TOPIC COMPUTING SYSTEMS REQUIREMENTS

PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. No I/O Devices required
3. Core Requirements - 752 bytes

B. Software

1. OS/360 (MFT) operating system
2. This module calls- a. JULDATE
   b. $CAROL

CHEMICAL ABSTRACTS SERVICE Systems Development DOCUMENTATION MANUAL	NAME System Program Module Macro	U.S.O.E. REPORTS 30,31,32,33,34,35 PRINT	ID System Program Module Macro	I039 I039.P190 I0390062
	TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of this module is to print Reports 30-35, and the statistics for I039.P190.

II. ABSTRACT

This module formats and prints the data from the tables of halfword counters for each report, as requested. Statistics are also printed.

sh
3/69

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION
MANUAL

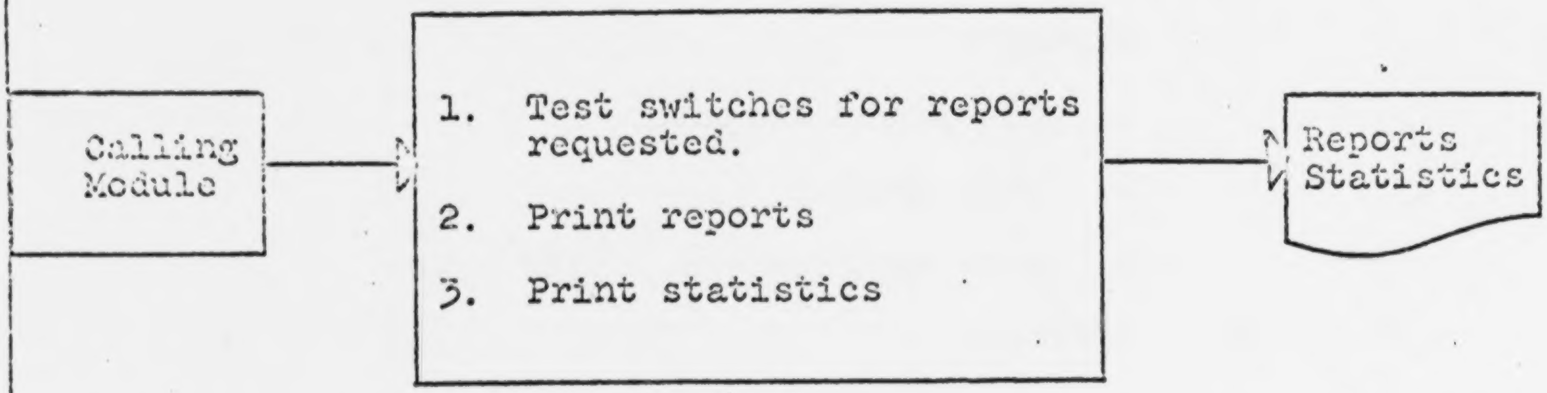
NAME
System U.S.O.E. REPORTS 30,31,32,33,34,35
Program
Module PRINT
Macro

ID
System I039
Program I039.P190
Module I0390062
Macro

TOPIC SUMMARY CHART

PAGE

III. SUMMARY CHART


Calling Module
1. Test switches for reports requested.
2. Print reports
3. Print statistics
Reports Statistics

kad
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CHEMICAL ABSTRACTS SERVICE
Systems Development
DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 30,31,32,33,34,35
Program
Module PRINT
Macro

ID
System I039
Program I039.P190
Module I0390062
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS
PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. 1403 printer
3. Core requirements - 5408 bytes

B. Software

1. IBM OS/360 operating system
2. No CAS modules referenced

kad
2/69

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 29,37
Program
Module PROCESS INTERLIBRARY LOAN FILE
Macro

ID
System I039
Program I039.P195
Module I0390074
Macro

TOPIC PURPOSE AND ABSTRACT

PAGE

I. PURPOSE

The purpose of this module is to locate and analyse the data elements required for Reports 29 and 37.

II. ABSTRACT

The required data elements are located in the Interlibrary Loan Master File II record. When they are located, I0390075 is called to build the tables for the Reports. Statistics are kept.

:ls

3/1969

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

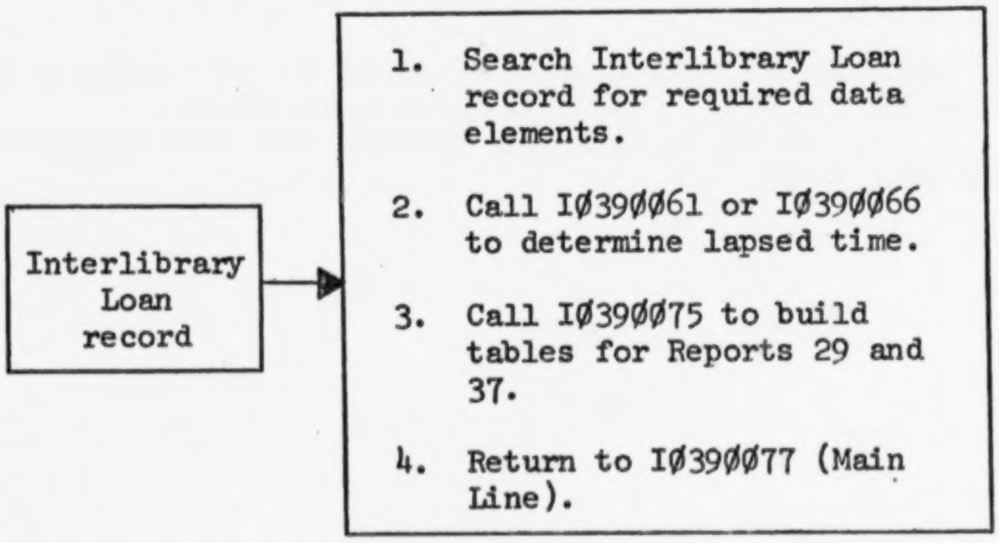
NAME
System U.S.O.E. REPORTS 29,37
Program
Module PROCESS ILL FILE
Macro

TOPIC

ID
System I039
Program I039.P195
Module I0390074
Macro

PAGE

III. SUMMARY CHART



Interlibrary Loan record

1. Search Interlibrary Loan record for required data elements.
2. Call I0390061 or I0390066 to determine lapsed time.
3. Call I0390075 to build tables for Reports 29 and 37.
4. Return to I0390077 (Main Line).

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System
Program
Module
Macro

U.S.O.E. REPORTS 29,37

PROCESS INTERLIBRARY LOAN FILE

ID
System I039
Program I039.P195
Module I0390074
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS

PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. No I/O Devices required
3. Core Requirements - 1285 bytes

B. Software

1. OS/360 Operating System (MFTII)
2. CAS Modules Referenced -
   a. $CAROL
   b. I0390061
   c. I0390066
   d. I0390075

KB:1s

3/1969

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 29,37	System	I039
Program		Program	I039.P195
Module	BUILD TABLES	Module	I039075
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of this module is to build the data tables from which reports 29 and 37 can be printed.

II. ABSTRACT

The parameters passed by I039074 are used to calculate the positions of the table counters to be updated for each record. The counters are incremented and control is returned to I039074.

B:ls

3/1969

65-155 (Rev 3/68)

CHEMICAL ABSTRACTS SERVICE
Systems Development
DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 29,37
Program
Module BUILD TABLES
Macro
TOPIC SUMMARY CHART

ID
System I039
Program I039.P195
Module I0390075
Macro
PAGE

III. SUMMARY CHART

1. Store parameters from I0390074.
2. Calculate location of relevant table counters.
3. Increment the counters.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 29,37
Program
Module BUILD TABLES
Macro

ID
System I039
Program I039.P195
Module I0390075
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS

PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer.
2. No I/O Devices required.
3. Core Requirements - 77,754 bytes

B. Software

1. OS/360 Operating System
2. CAS Modules Referenced - none

KB:ls

3/1969

CHEMICAL ABSTRACTS SERVICE Systems Development DOCUMENTATION MANUAL	NAME System U.S.O.E. REPORTS 29,37 Program Module PRINT Macro	ID System I039 Program I039.P195 Module I0390076 Macro	
	TOPIC PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

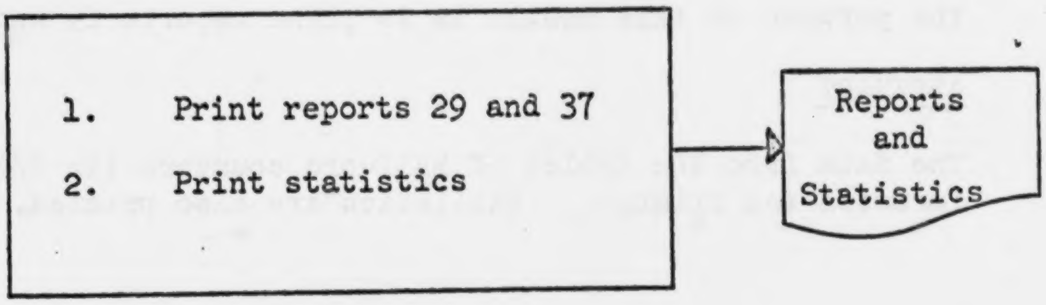
The purpose of this module is to print reports 29 and 37.

II. ABSTRACT

The data from the tables of halfword counters (in I0390075) is formated and printed. Statistics are also printed.

kad
3/69

III. SUMMARY CHART


1. Print reports 29 and 37
2. Print statistics
Reports and Statistics

kad
3/69

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 29,37	System	I039
Program		Program	I039.P195
Module	MAIN LINE	Module	I0390077
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of this module is to provide main line control for the generation of O.E. Reports 29 and 37.

II. ABSTRACT

This module controls the execution of I039.P195 which is comprised of the modules:

a. I0390061
b. I0390066
c. I0390074
d. I0390075
e. I0390076
f. I0390077
g. JULDATE
h. SAURBORN

sh
3/69

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

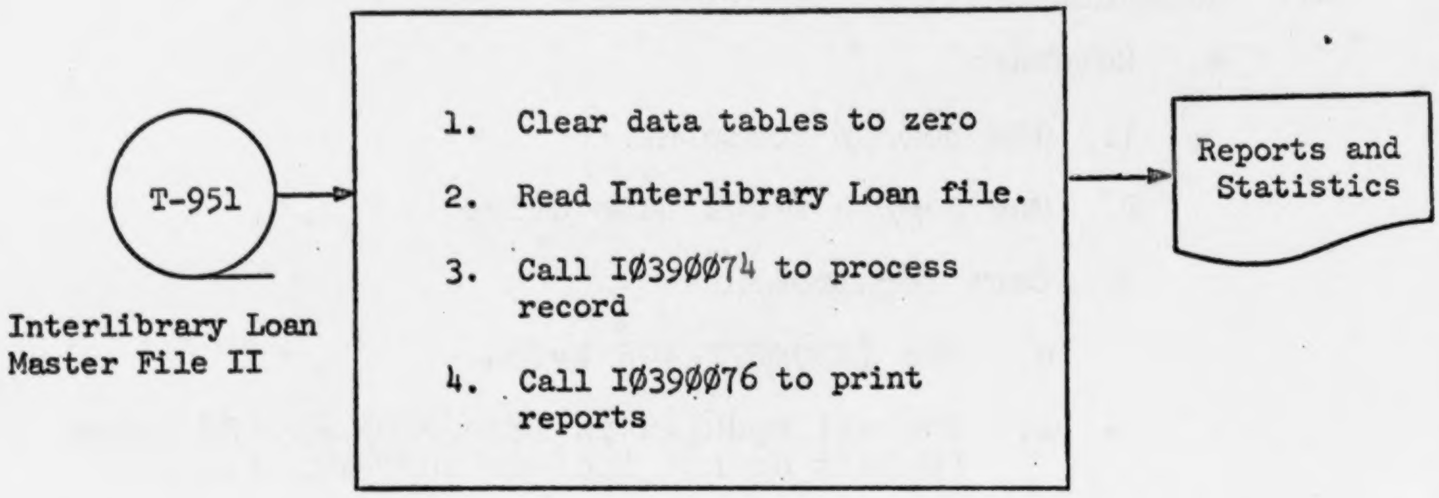
1. IBM 360/50 computer
2. 1403 printer
3. Core requirements - 4930 bytes (excluding buffers)

B. Software

1. IBM OS/360 operating system
2. CAS modules referenced - none

kad
3/69

III. SUMMARY CHART


T-951
Interlibrary Loan
Master File II
1. Clear data tables to zero
2. Read Interlibrary Loan file.
3. Call I0390074 to process record
4. Call I0390076 to print reports
Reports and Statistics

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 29,37	System	I039
Program		Program	I039.P195
Module	MAIN LINE	Module	I0390077
Macro		Macro	
TOPIC	COMPUTING SYSTEM REQUIREMENTS	PAGE	

IV: COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. One 2400 9 track tape drive
3. Core requirements
    a. For I0390077-496 bytes
    b. For all modules in I039.P195-83,600 bytes (Values do not include buffers, etc.)

B. Software

1. OS/360 operating system
2. CAS modules referenced -
    a. $CAROL
    b. SAURBORN
    c. I0390074
    d. I0390076
3. Execution time (I039.P195) - 15 min. (The Interlibrary Loan File contained 70,000 records).

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME System	U.S.O.E. REPORT 38,39,40,41,42,43	ID System	I039
Program		Program	I039.P200
Module	MAIN LINE	Module	I0390063
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of this module is to provide main line control for the generation of reports 38-43.

II. ABSTRACT

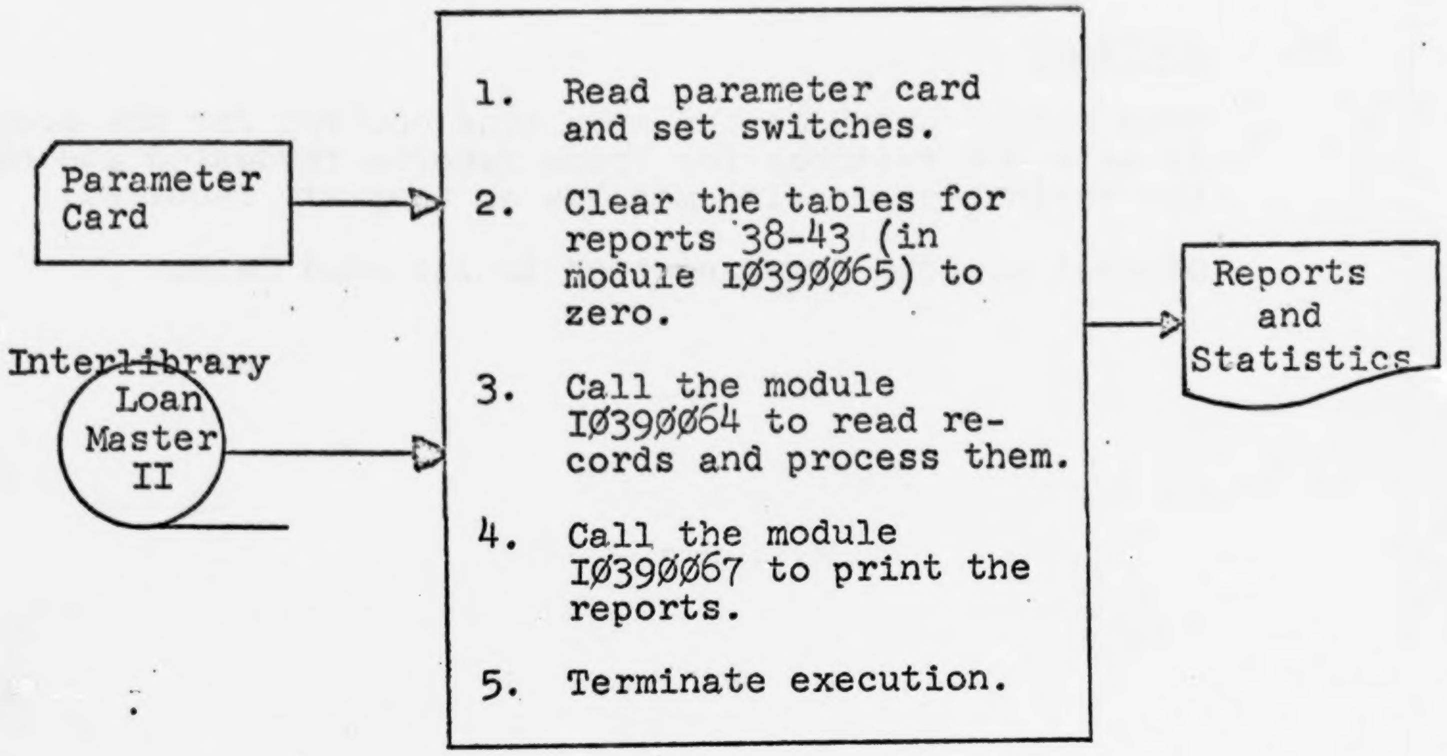
This module provides the main line control for the program. It sets the switches for those reports requested and calls the various processing modules as they are required.

General program documentation is included here.

KHB:ls

2-1969

III. SUMMARY CHART


Parameter Card
Interlibrary Loan Master II
Reports and Statistics

1. Read parameter card and set switches.
2. Clear the tables for reports 38-43 (in module I0390065) to zero.
3. Call the module I0390064 to read records and process them.
4. Call the module I0390067 to print the reports.
5. Terminate execution.

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. I/O Devices - 1 2540 card reader
   1 1403 printer (regular chain)
   1 2400 9 track tape drive
3. Core Requirements -

   I0390063 - 532 bytes
   I039.P200 - 64280 bytes

B. Software

1. OS/360 Operating System
2. CAS Modules Referenced - a. $CAROL b. STDSYNAD
   c. I0390064
   d. I0390067
   e. SAURBORN
3. Execution time (I039.P200) - 15 min. (Interlibrary Loan File contained 70,000 records.)

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 38,39,40,41,42,43	System	I039
Program		Program	I039.P200
Module		Module	I0390064
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

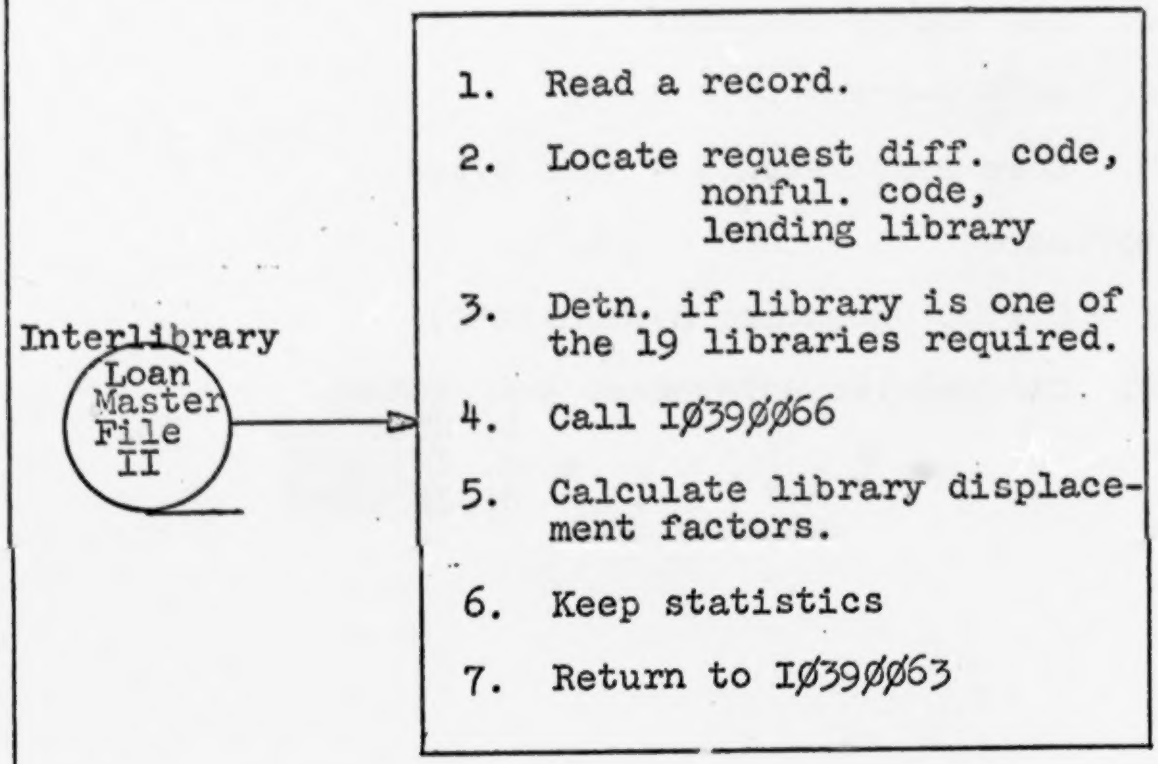
I. PURPOSE

The purpose of this module is to determine which records from the Interlibrary Loan Master File II are relevant to reports 38-43, and perform the basic processing common to each of these reports.

II. ABSTRACT

This module reads records from the Interlibrary Loan File II and attempts to locate the three data elements required by all of the reports. If any of these data elements is missing the record is skipped. Otherwise the module I0390066 is called (to determine lapsed time between two dates). Table displacement factors are calculated for the lending library, and the module I0390065 is called to update the tables for the reports. Statistics are kept in this module.

III. SUMMARY CHART



1. Read a record.
2. Locate request diff. code,
   nonful. code,
   lending library
3. Detn. if library is one of the 19 libraries required.
4. Call I0390066
5. Calculate library displacement factors.
6. Keep statistics
7. Return to I0390063

2-1969

KHB:1s

65-155 (Rev 3/68)

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. 2400 9-track tape drive
3. Core requirements - 4918 bytes

B. Software

1. OS/360 Operating System (MFT)
2. CAS Modules Referenced - a. $CAROL
   b. STDSYNAD
   c. I0390065
   d. I0390066

kad
2/69

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME		ID	
System	U.S.O.E. REPORTS 38,39,40,41,42,43	System	I039
Program		Program	I039.P200
Module		Module	I0390065
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of this module is to build the tables from which reports 38-43 will be printed.

II. ABSTRACT

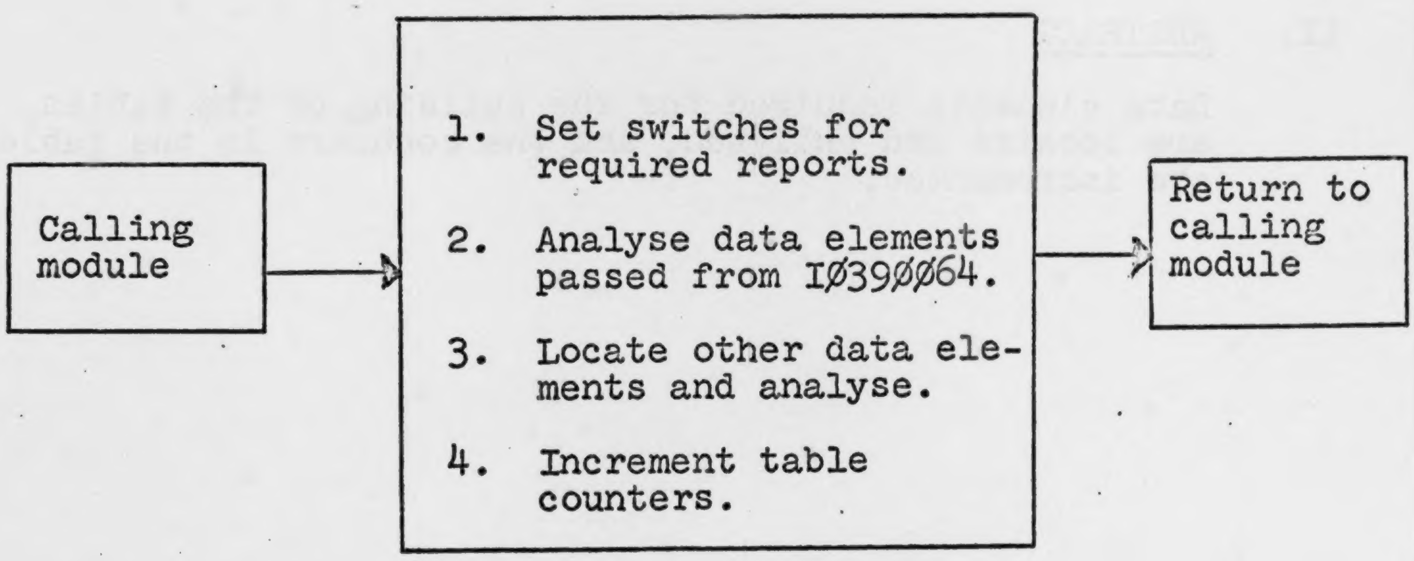
Data elements required for the building of the tables are located and analysed, and the counters in the tables are incremented.

CHEMICAL ABSTRACTS SERVICE
Systems Development
DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 38,39,40,41,42,43
Program
Module
Macro
TOPIC SUMMARY CHART

ID
System I039
Program I039.P200
Module I0390065
Macro
PAGE - -

III. SUMMARY CHART


Calling module
1. Set switches for required reports.
2. Analyse data elements passed from I0390064.
3. Locate other data elements and analyse.
4. Increment table counters.
Return to calling module

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. No I/O Devices
3. Core Requirements - 47,836 bytes

B. Software

1. OS/360 operating system (MFT)
2. CAS Module Referenced - $CAROL

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME System	U.S.O.E. REPORTS 38,39,40,41,42,43	ID System	I039
Program		Program	I039.P200
Module		Module	I0390066
Macro		Macro	
TOPIC	PURPOSE AND ABSTRACT	PAGE	

I. PURPOSE

The purpose of this module is to calculate the difference, in days, between two dates and express this as a date class.

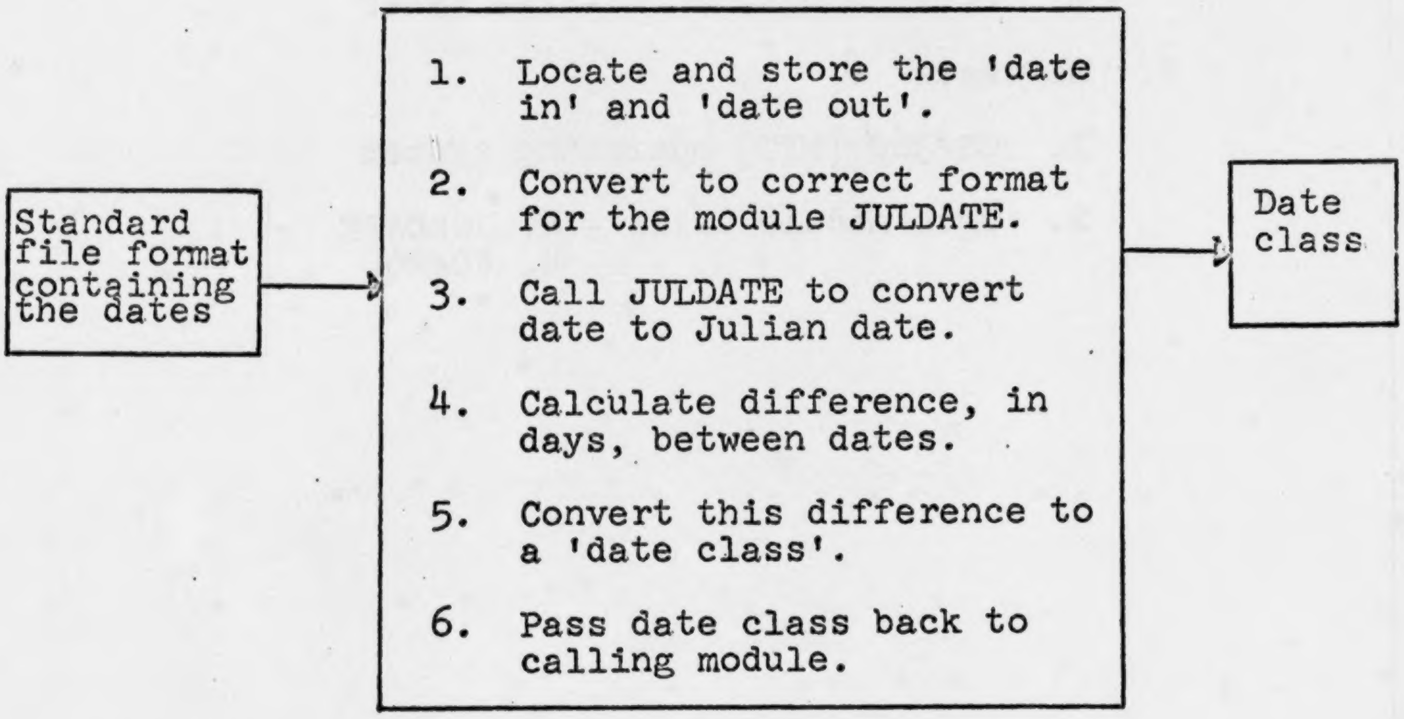
II. ABSTRACT

This module locates and stores the two dates (date of receipt of request and date of notice of nonfulfillment of request) in a given record, and calculates the difference between them in days. This difference is then converted to a "date class", which is returned to the calling module.

KHB:ls

2-1969

III. SUMMARY CHART



1. Locate and store the 'date in' and 'date out'.
2. Convert to correct format for the module JULDATE.
3. Call JULDATE to convert date to Julian date.
4. Calculate difference, in days, between dates.
5. Convert this difference to a 'date class'.
6. Pass date class back to calling module.

CHEMICAL ABSTRACTS SERVICE
Systems Development

DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 38,39,40,41,42,43
Program
Module
Macro

ID
System I039
Program I039.P200
Module I0390066
Macro

TOPIC COMPUTING SYSTEMS REQUIREMENTS

PAGE -

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. No I/O Devices required
3. Core Requirements - 752 bytes

B. Software

1. OS/360 (MFT) operating system
2. This module calls - a. JULDATE
   b. $CAROL

KHB:ls

2-1969

I. PURPOSE

The purpose of this module is to print Reports 38-43, and the statistics for I039.P200.

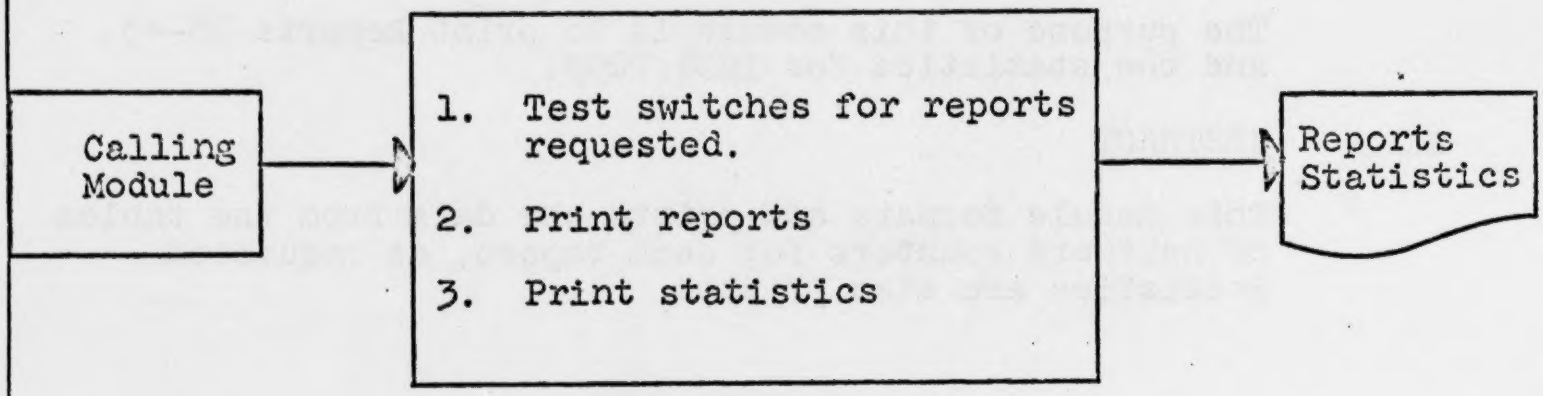
II. ABSTRACT

This module formats and prints the data from the tables of halfword counters for each report, as requested. Statistics are also printed.

kad
2/69

NAME		ID	
System	U.S.O.E. REPORTS 38,39,40,41,42,43	System	I039
Program		Program	I039.P200
Module	PRINT	Module	I0390067
Macro		Macro	
TOPIC	SUMMARY CHART	PAGE	

III. SUMMARY CHART


Calling Module
1. Test switches for reports requested.
2. Print reports
3. Print statistics
Reports Statistics

kad
2/69

CHEMICAL ABSTRACTS SERVICE
Systems Development
DOCUMENTATION MANUAL

NAME
System U.S.O.E. REPORTS 38,39,40,41,42,43
Program
Module PRINT
Macro

ID
System I039
Program I039.P200
Module I0390067
Macro

TOPIC COMPUTING SYSTEM REQUIREMENTS
PAGE

IV. COMPUTING SYSTEM REQUIREMENTS

A. Hardware

1. IBM 360/50 computer
2. 1403 printer
3. Core requirements - 5682 bytes

B. Software

1. IBM OS/360 operating system
2. No CAS modules referenced

kad
2/69

APPENDIX 12

Descriptions of Source Documents Used for Input to the Applicability File

Source Documents Used for Input to the Applicability File *

(1) Nuclear Science Abstracts reviews literature on nuclear science and technology. The journal list and supplements for 1967 consisting of 2788 titles were evaluated for this study. (AFK40)**

(2) Biological and Agricultural Index provides a detailed subject index to some 149 periodicals published in the U.S., Canada, and the British Commonwealth, which are selected for indexing by subscribers. The list extracted for this study appeared in the June 1967 issue. (AFK6)

(3) Index Medicus reviews a cross section of the paramedical periodical literature, selected by physicians, scientists, medical librarians, and physician or scientist editors. The January 1967 "List of Journals Indexed in Index Medicus" containing 2250 titles was evaluated by this study. (AFK1)

(4) Meteorological and Geoastrophysical Abstracts covers current publications in the atmospheric and related sciences. A selected list of 119 publications in the December 1966 issue was used for this study. (AFK15)

(5) Applied Mechanics Review covers technical literature in applied mechanics. The list of 891 periodicals evaluated in this study appeared in the 1966 volume. (AFK3)

(6) Science Abstracts is comprised of Physics Abstracts, Electrical & Electronics Abstracts, Control Abstracts, Current Papers in Physics, and Current Papers on Control. A list of 1236 titles for this study came from the December 1966 issue and the Supplementary List of Journals for 1967. (AFK22)

(7) International Aerospace Abstracts covers literature in aeronautics and space science and technology. Titles used for this study were taken from the 1966 volume. (AFK11)

(8) Bibliography of North America Geology indexes literature on geology of North America and U.S. possessions. Titles used in this study were listed in the 1966 volume. (AFK23)

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* Full bibliographic descriptions of these source documents are given in the Report Bibliography.

** AFK numbers correspond with interest codes used on the Applicability File.

Appendix 12

Descriptions of Source Documents Used for Input to the Applicability File

(9) Bibliography and Index of Geology Exclusive of North America abstracts geologic literature dealing with areas outside of North America and works by non-North American geologists on general geological topics, regardless of place of publication. List of periodicals evaluated for this study came from volume 29, 1966. (AFK24)

(10) Engineering Index covers current technical periodicals concerning engineering which are received by the Engineering Societies Library. The list of 2029 titles included in this study came from a monograph entitled "List of Publications Reviewed and Supplement to Engineering Index List of Publications." These updated lists were made available to CAS in 1966. (AFK5)

(11) Iron and Steel Institute abstracts and indexes literature in ferrous metallurgy and the manufacture of iron and steel. The list of 1142 titles examined in this study was published by the Library and Information Department of the Iron and Steel Institute, Occasional Bulletin No. 4, May 1966. (AFK19)

(12) Biological Abstracts represents the world's biological research literature. The list of 7003 titles extracted for this study came from the November 1966 issue. (AFK25)

(13) Geoscience Abstracts covers literature in geology, solid earth geophysics and related areas of science which is either published in North America, or deals with North America. The list of 521 titles evaluated in this study was published in the December 1966 issue. (AFK20)

(14) Mathematical Reviews covers literature dealing with pure and applied mathematics. The list of periodicals evaluated for this study involved 1048 titles in the 1966 issue. (AFK27)

(15) Review of Metal Literature abstracts scientific, engineering, and technical literature concerned with the production, properties, fabrication, and applications of metals, their alloys, and compounds. The list of 1774 primary journals in the 1966 volume was used for this study. (AFK26)

(16) Bibliography of Agriculture indexes literature of the United States, Russia, and Western Europe concerning agriculture and related sciences which is received by the National Agriculture Library. The list of 9087 titles used for this study came from the National Agricultural Library List No. 75, Revised, April 1965. (AFK41)

(17) Psychological Abstracts reviews literature dealing with all aspects of psychology. Used in this study were 525 publications from volume 40, 1966. (AFK16)

(18) Applied Science & Technology Index covers periodicals published in the United States, Canada, and Great Britain as selected by subscribers. The 230 periodicals included in this study were listed in the June 1967 issue. (AFK4)

(19) British Technology Index covers British technical publications primarily related to engineering, manufacturing, and chemical technology. The 380 titles included in this study were published in the 1966 edition. (AFK9)

(20) PANDEX covers principal journals in science, medicine, and technology, dependent upon the proportion of significant articles published by each. A list of 1938 titles from "Periodicals Covered by PANDEX," 1967, was utilized for this study. (AFK13)

(21) Biological Abstracts provided a list of 502 core literature titles provided to CAS as a proprietory document. (AFK17)

(22) Prime Metallurgical Journals is a 1966 list of 93 serials containing scientific, technical, and engineering information, primarily in the field of metals and metallurgy. (AFK12)

(23) Survey of Most Frequently Cited Journals in 24 issues of Nuclear Science Abstracts is a list of 302 serial titles compiled by the U.S. Atomic Energy Commission. The survey was limited to Volume 20, Numbers 13 through 24, and Volume 21, Numbers 1 through 12 for the years 1966 and 1967. (AFK7)

(24) Journals abstracted completely in Physics Abstracts is a list of 82 serials whose scientific and technical articles were abstracted completely during 1966. (AFK46)

(25) Sixty-seven most heavily used journals supplying 50.6% of the loans of recently published issues. Results of a study conducted by Thomas P. Fleming and Frederick G. Kilgour and published in the Bulletin of the Medical Library Association (volume 52, pp. 234-241, 1964). (AFK30)

(26) Analysis of One Year's Circulation at the Downstate Medical Center Library. Survey conducted by Helen Kovacs identifies the top 50 serials circulated over a one-year period. This study was published in the Bulletin of the Medical Library Association (volume 54, pp. 42-47, 1966). (AFK33)

(27) The 38 Journals Most Frequently Used by Medical Students and/or Full-Time Teaching Faculty. Results of a study by Peter Stangl and Frederick G. Kilgour conducted at the Yale Medical School Library. Published in the Bulletin of the Medical Library Association (volume 55, pp. 301-315, 1967). (AFK32)

(28) A Study of the Interlibrary Loan Activity of the National Library of Medicine for the Fiscal Year 1967. This study by Charles W. Schilling documents a list of the 300 most requested titles which represent 41% of the loans sampled. (AFK48)

(29) Interlibrary Request and Loan Transactions among Medical Libraries of the Greater New York Area. This 1966 study by Lee Ash and Vernon R. Bruette identifies those serials most frequently requested from and by the surveyed libraries. (AFK38)

(30) Survey of the Interlibrary Loan Operation of the National Library of Medicine. This 1962 study by William H. Kurth produced a listing of the 300 most used serial titles derived from an analysis in NLM's interlibrary loans for 1959. (AFK28)

(31) 100 Most-Used Periodicals in the science and technology division of the New York Public Library as analyzed from April 1, 1960 through March 31, 1961. (AFK10)

(32) Serials Requested on Interlibrary Loan from January through June of 1965 presents a list of 213 serial titles. This list is presented in a study by Joan M. B. Smith analyzing the interlibrary loan services at Children's Hospital of Michigan. (AFK29)

(33) A Study of the Use of Serials at the John Crerar Library is an unpublished master's thesis of 1960 by Margaret A. Notheisen. This contains a list of 310 most frequently borrowed serial titles for the six month periods of January through June 1958 and 1959. (AFK36)

(34) The Agricultural Biological Literature Exploitation Study (Report of Task Force ABLE) completed in March of 1965 for the National Agricultural Library compiled a listing of 412 titles requested five or more times. This was derived from an analysis of all request forms for material loaned in a three month period during 1962. (AFK14)

(35) Journals Covered by Physics Abstracts in 1965 Arranged in Rank Order. The top ranking 150 serials from this list were compared with ACCESS. The list was published as an appendix to a study by Stella Keenan and F. G. Brickwedde "Journal Literature Covered by Physics Abstracts in 1965." (AFK45)

(36) Serials Covering the Medicinal and Pharmaceutical Chemistry Field, Adjacent Areas, and Otherwise Pertinent Material. This list of 148 serials is from a study by Andrew Lasslo entitled "An Estimate of Comparative Serial Literature Resources Supporting Research in Medicinal and Pharmaceutical Chemistry in Major Libraries of the United States." This article was published in the Bulletin of the Medical Library Association (volume 50, pp. 70-88, 1962). (AFK31)

(37) The Journal Literature of Physics is a comprehensive study by Stella Keenan and Pauline Atherton based on the 1961 issues of Physics Abstracts. A ranked listing of the 405 serials is presented in the appendix of this study. (AFK2)

(38) Journals Ranked by the Number of OAR (Office of Aerospace Research) Sponsored Articles Published Between 1959 and 1964. This ranked listing of 512 serials are those lending serials in which OAR sponsored papers most frequently appeared. These findings were reported by James A. Fava and Alex G. Hoshovsky in a study titled "Availability of Scientific Journals in Defense Oriented Libraries." (AFK35)

(39) Serial Titles in Geology Arranged by Frequency of Citation is a list of 106 serials identified as the more important serials cited in ten source journals for geology for the years 1950 to 1953. Documented in the unpublished doctoral paper by Lao Sunthata in 1956 entitled: Some Bibliographical Characteristics of Serial Literature in the Field of Geology. (AFK34)

(40) Composite List of Journals of Pharmaceutical Interest. This compilation of 702 serials is the combination of three lists of journals, each selected on the basis of pharmaceutical

information content. The three lists are identified as follows: (a) List of Periodicals for Pharmaceutical Abstracts, 1960; (b) Journals to be covered by proposed Pharmaceutical Abstract Publication, 1955; and (c) List of Journals covered by Unlisted Drugs Contributors, 1962. This composite list was included as an appendix to a 1963 government document entitled, "Drug Literature." (AFK37)

(41) List of the core literature for the chemical sciences developed by the editors of Chemical Abstracts. (AFK43)

(42) Listing of 10,399 currently published scientific and technical serials included in ACCESS. (AFK50)

(43) Inventory of the scientific and technical serial and conference proceedings volumes holdings of the Chemical Abstracts Service Library. (AFK42)

APPENDIX 13

Sample Applicability File Data Collection Form

The data collection forms for the Applicability File were 5"x8" cards upon which fill-in lines for the ASTM CODEN or CAS title code, the word "title," and the numbers 1-50 had been printed.

On the sample given here, the entry for Agricultural Chemicals was cut from source list number 25, list of serials abstracted by Biological Abstracts and pasted on a blank form. The ASTM CODEN with its computer calculated check character, AGCHA7, was printed on the card and the interest code, number 25 was circled. Since this serial title was also found in lists numbered 6, 37, 41, 42, 43, and 50, these interest codes were also circled.

A G C H A 7
Coden

Title: AGRICULTURAL CHEMICALS US

1	2	3	4	5	⑥	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	㉕	26	27	28	29	30
31	32	33	34	35	36	㊲	38	39	40
㊶	㊷	㊸	44	45	46	47	48	49	㊿

APPENDIX 14

Description of Keyboarding and Proofing Operations

CHEMICAL ABSTRACTS SERVICE

COMPOSITION SERVICES DEPARTMENT

U. S. OFFICE OF EDUCATION KEYBOARDING AND PROOFING OPERATIONS

November, 1967

The U. S. Office of Education Contract required that two files, the Applicability File and the Interlibrary Loan File, be built. This involved transcribing data from approximately 98,000 data sheets on to magnetic tape using the Mohawk 1101 or 1181 Data Recorders.

Procedures contained in this manual have been established to assure that these data are completely and accurately recorded.

This manual is presented in 3 sections:

I. General work-flow chart

II. Description of procedures

III. Keyboarding instructions

II. PROCEDURES

A. Initial Keyboarding

1. Data Control

    a. Receive source documents (Attachment A-1 and A-2) from the Library, Department 6, according to the schedule (Attachment A-3) submitted by the Library.

    b. Batch in as received

        1) Complete part I of the Batch Control Sheet (Attachment A-4).

        2) Assign a five digit batch number from the pre-numbered Batch Control Log.

    c. Prepare a Batch Control Log (Attachment A-5) to the 'Passed to KBDG' column.

    d. Pass batch to the Mohawk 1101 Section immediately.

2. Mohawk 1101 Section

    a. Receive batch from Data Control

    b. Keyboard transactions indicated on the source documents following instructions in Section III.

    c. Complete part II of the Batch Control Sheet.

    d. Complete a Magnetic Tape Log (Attachment A-6).

    e. Send tape, tape log and source documents to the Tape Pooling Area.

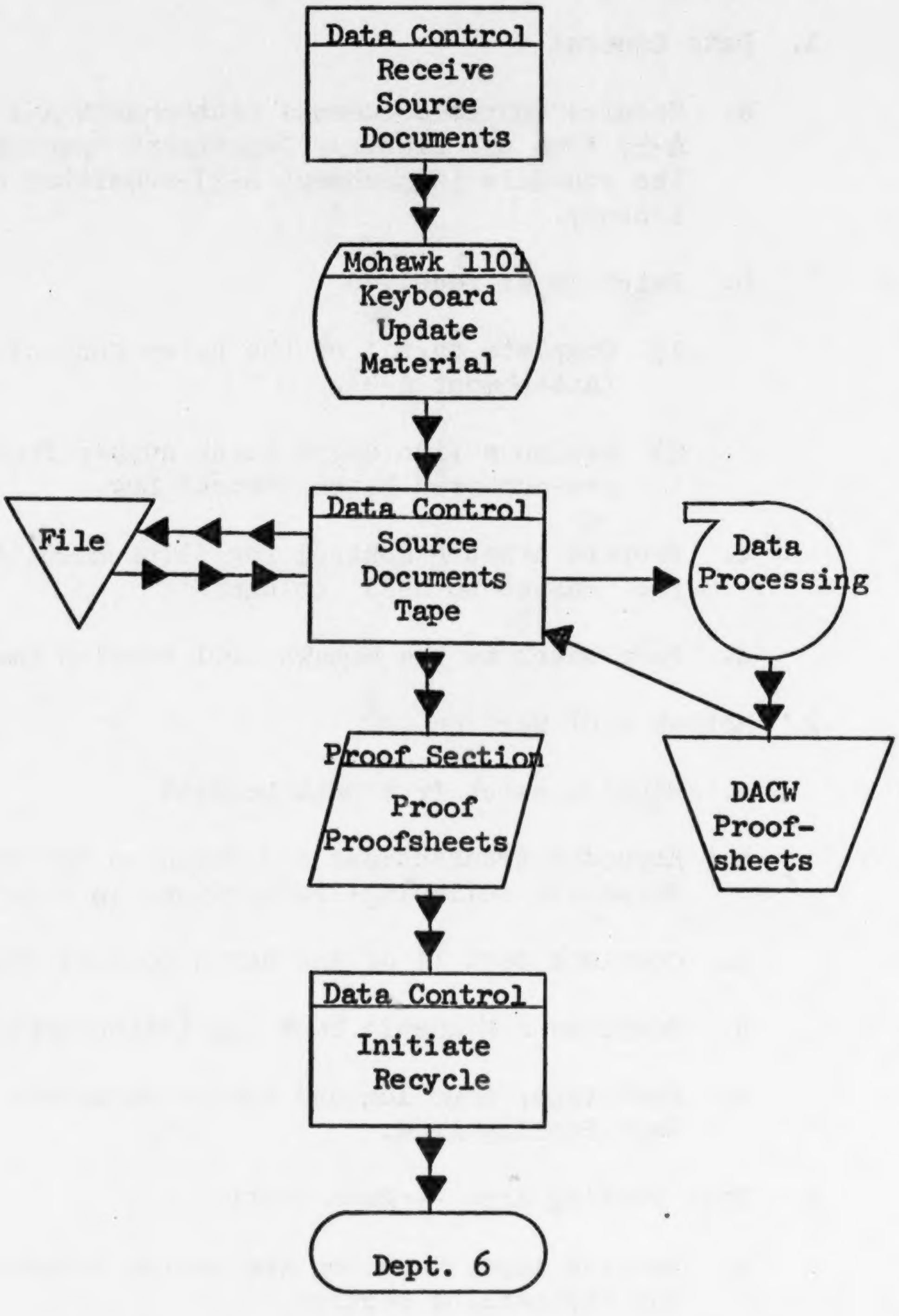
3. Tape Pooling Area -- Data Control

    a. Receive tape, tape log and source documents from the keyboarding section.

    b. Pool 7 track tape to 9 track.

    c. Complete a magnetic tape log listing the pooled tape number.

I: General Work-Flow Chart


Data Control
Receive
Source
Documents
Mohawk 1101
Keyboard
Update
Material
File
Data Control
Source
Documents
Tape
Data
Processing
DACW
Proof-
sheets
Proof Section
Proof
Proofsheets
Data Control
Initiate
Recycle
Dept. 6

d. Send source documents and 7 track tape to Data Control, retain tape logs.

e. Deliver pooled tape to Data Processing before 4:30 of each working day.

  1) Log tape in Data Processing tape log.

4. Data Control Section

a. Receive batch of source documents and 7 track tape from the Tape Pooling Clerk.

b. Complete part III of the Batch Control Sheet.

c. Record date material returned in the Batch Control Log.

d. File source documents and 7 track tape.

e. Receive Proofsheets (Attachment A-7) from Data Processing.

f. Match Proofsheets with proper batch of source documents using the batch number.

g. Pass batch to Mohawk 1101 Proof Section immediately after the matching operation.

  1) Complete Batch Control Log as appropriate.

5. Mohawk 1101 Proof Section

a. Receive batch of source documents and proofsheets from Data Control.

b. Proof-check the proofsheets following instructions outlined on General Services Work Order No. 02372.

c. Complete part IV of the Batch Control Sheet and return batch to Data Control.

  1) If all transactions within the batch are correct, check-mark the Batch Control Sheet by the 'NO ERRORS'.

  2) If a recycle operation is required, indicate the number of errors on the Batch Control Sheet.

B. Recycle Operation

1. Data Control Section

   a. Receive batch from proofing section and make proper notations in the Batch Control Log.

   b. Complete part V of the Batch Control Sheet.

      1) If batch is marked as 'NO ERRORS', return source documents to the Library and scratch the original input tape.

      2) If batch is indicated for recycle (i.e. 'ERRORS' block filled in with a number) then process batch through the recycle operation as follows:

   c. Prepare a Recycle Batch Control Sheet (Attachment A-8), part I.

      1) Use original batch number.

   d. Complete a Recycle Batch Control Log as appropriate (Attachment A-5).

   e. Place batch in file pending keyboarding operation.

   f. Pass batch(es) to the Mohawk 1101 Section

      1) Make proper notations in the Batch Control Log.

2. Mohawk 1101 Section

   a. Receive batch(es) of recycles from Data Control.

   b. Keyboard corrections as indicated following instructions in Section III.

   c. Complete part II of the Batch Control Sheet.

   d. Complete a Magnetic Tape Log.

   e. Send tape, tape log and recycle batch(es) to the Tape Pooling Area.

3. Tape Pooling Area -- Data Control

   a. Receive batch of recycles, tape and tape log from the keyboarding section.

   b. Pool 7 track tape to 9 track.

   c. Complete a Magnetic Tape Log listing the pooled tape number.

   d. Send recycle batch(es) and 7 track tape to Data Control, retain tape logs.

   e. Deliver pooled tape to Data Processing before 4:30 of each working day.

      1) Log tape in Data Processing tape log.

4. Data Control Section

   a. Receive recycle batches and 7 track tape from the Tape Pooling Clerk.

      1) Make proper notations in the Batch Control Log.

   b. Place recycle batches and 7 track in file.

   c. Receive proofsheets and tape from Data Processing.

   d. Match proofsheets with proper batch of recycle material using the batch number.

   e. Make proper notations in the Batch Control Log and pass the recycle batch(es) to the proof section.

5. Mohawk 1101 Proof Section

   a. Receive recycle batch(es) from Data Control.

   b. Proof-check the recycles following instructions outlined on General Services Work Order No. 02372.

   c. Complete part IV of the Batch Control Sheet and return batch(es) to Data Control.

        1) If all transactions within the batch(es) are correct, check-mark the Batch Control Sheet by the 'NO ERRORS'.
        2) If a recycle operation is required, indicate the number of errors on the Batch Control Sheet.

6. Data Control Section

    a. Receive recycle batch(es) from the proof section.

    b. If the Batch Control Sheet is check-marked indicating 'NO ERRORS' then:

        1) Complete the Batch Control Log as appropriate.
        2) Complete part V of the Batch Control Sheet.
        3) Return source documents to the Library.
        4) Scratch magnetic tapes pertaining to the completed batches.
        5) File Batch Control Sheet for two weeks and then discard.

    c. If the Batch Control Sheet contains an error count, process the batch through the procedures outlined above.

III. Keyboarding Instructions

A. Keyboarding Applicability File Data Sheets

1. A header record is keyboarded at the beginning of each new magnetic tape. The header record must be verified and initialed.

Columns	Text	
5-7	000	
8	blank	
9-10	oe	office of education
11-12	nm	new material
	un	update material
13-14	bb	device code for 1181
15-20	date	day-month-year
21-25	reel no.	left justified with trailing blanks
26-	operators name	

2. A batch record is keyboarded for each new batch of work. The batch record must be verified and initialed.

Columns	Text	
5-7	001	
8	blank	
9-13	batch no.	right justified with leading zeros
14	blank	
15-17	no. of work units	right justified with leading zeros
18-19	ap	applicability file
	kb	update

3. The coden record contains a five or six digit/letter coden. This CODEN is located in the upper left of the source document.

Columns	Text
5-7	170
8	blank
9-	coden

4. The interest code record contains a two digit number found in the middle portion of the source document. The circled numbers are the only ones keyboarded. A one digit number must be preceded by a leading zero. A blank is inserted between each interest code.

Columns	Text
5-7	180
8	blank
9-	two digit interest codes separated by a blank

General Instructions

1. Each source document requires a 170 record and 180 record.

2. The update procedure will be the same as in The Index Publication System.

3. The proofing procedure will be the same as in the Index Publication System.

Job Name: USOE Applicability File

Job Number: I039P10

Product Code: Keyboarding .10-85425
Proofing .12-85425

The following keyboarding will illustrate the format and information for the two source documents on Page 3.

```
000 oenmbb251068m9       loislee heffernan

001 00001 150ap

170 aagna
180 25 40

170 aaaca8
180 41 44
```

B. Keyboarding Interlibrary Loan File Data Sheets

1. A header record is keyboarded at the beginning of each new magnetic tape. The header record must be verified and initialed.

Columns	Text	
5-7	000	
8	blank	
9-10	oe	office of education
11-12	nm	new material
	um	update material
13-14	bb	device code for 1181
15-20	date	day-month-year
21-25	reel no.	left justified with trailing blanks
26-	operators name	

2. A batch record is keyboarded for each new batch of work. The batch record must be verified and initialed.

Columns	Text	
5-7	001	
8	blank	
9-13	batch no.	right justified leading zeros
14	blank	
15-17	no. of work units	right justified with leading zeros
18-19	il	interlibrary loan
	kb	update

3. Keyboard a single record for each data field appearing on the source document.

4. For each sheet, three fields are required. They are:

Lending Library (keyboard code 010)
Borrowing Library (keyboard code 030)
Coden (keyboard code 170)

5. Fields keyboarded with codes 050, 070, 090, 110, 130 and 150 are involved in the interlibrary transaction. The dates must be in the proper sequence. For example:

   12 January 1969 must be keyed before 14 February 1969

6. The update procedure will be the same as in the Index Publication System.

   Job Name: Interlibrary Loan File

   Job Number: I039P50

   Product Code: .10-85425
   .11-85425

The following keyboarding will illustrate the format and information for the source document on Page 3.

```
000 oenmbbl40269m220    loislee heffernan
z666 000 oenmbbl40269m220    loislee heffernan

001 oel00 050il
  666001 00100 050il

010 3260101
030 3230601
050 060967
070 060967
170 craua
190 0032
210 0008
230 0000941
250 00578
270 005[illegible]
290 xx
410 o
470 twx
```

Included here are several original forms as used in the keyboarding and proofing operations.

ATTACHMENT A-1

Included here are several original forms as used in the keyboarding and proofing operations

CHEMICAL ABSTRACTS SERVICE LIBRARY
OEC INTERLIBRARY LOAN STUDY DATA SHEET

ID NUMBER ________

DATA ELEMENT DESCRIPTION	EXAMPLE	TAG	VARIABLE DATA
1 Code for lending library	7 Numbers	010	3260101
2 Code for borrowing library	7 Numbers	030	3230601
3 Date of request	MMDDYY	050	060967
4 Date lending library received the request	MMDDYY	070	060967
5 Date lending library filled the request	MMDDYY	090	----
6 Date of notification of non-fulfillment	MMDDYY	110	----
7 Date borrowing library dropped the request	MMDDYY	130	----
8 Date borrowing library received item	MMDDYY	150	----
9 Coden for title requested	6 Characters	170	CRAUA
10 Volume number	4 or 8 Alpha/No.	190	0032
11 Issue and/or part number	4 or 8 Alpha/No.	210	0008
12 Date	MMDDYYY-MMDDYYY	230	0000941
13 Beginning page	5 Alpha/No.	250	00578
14 Ending page	5 Alpha/No.	270	00580
15 Language of item requested	2 Letters	290	XX
16 Was citation verified	1 Letter	310	----
17 Degree of difficulty in filling request	R, N or D	330	----
18 Indication of faulty reference	X	350	----
19 Filled by microfilm, photocopy or original	M, P or O	370	----
20 Code for union list used to refer borrower	3 Letters	390	----
21 Not sent because	1 Letter	410	O
22 Multiple order	01-01	430	----
23 Name of individual who requested item	5 Letters	450	----
24 Form of Request: ALA/LET/TWX/TEL/WAL	3 Letters	470	TWX

AAGNA
Coden

Title: Att: Association Genetica Italiana Italy

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

```
A3   AAACA8
A1   AN. INST. CERCET. AGRON., ACAD. REPUB. POP. ROM., SER. C.         041190T01
        FIZIOL., GENET., AMELIOR., PROT. PLANT. TEHNOL. AGR.           041190T02
A5   ANALELE INSTITUTULUI DE CERCETARI AGRONOMICE, ACADEMIA            038670T01
        REPUBLICII POPULARE ROMINE, SERIA C.  FIZIOLOGIE,              038670T02
        GENETICA, AMELIORARE, PROTECTIA PLANTELOR SI TEHNOLOGIE        038670 03
        AGRICOLA.                                                      038670 04
E1   V.26 (1958)-
E3
N1   RUMANIA.  INSTITUTUL DE CERCETARI                                 492120000
N1   AGRONOMICE.                                                       492120000
N1      ANALELE.                                                       492120000
N1         SERIA C.  FIZIOLOGIE, GENETICA,                             492120000
N1         AMELIORARE, PROTECTIA PLANTELOR SI                          492120000
N1         TEHNOLOGIE AGRICOLA.  BUCHAREST.                            492120000
```

Dept. 55

SERVICE DIVISION
PRODUCTION REQUEST FORECAST

Requester J. L. Wood
Kellogg 526

Date of Request July 26, 1968
Period Beginning July 29, 1968

JOB NAME	G.S.W. CODE	ESTIMATED TIME	ESTIMATED DAILY VOLUME	DATE REQUIRED	INPUT	OUTPUT	DATE SCHEDULED
USOE FILES	85550	1 hr.	0-50	daily	USOE Source Sheets	1101 tape	daily

Comments:

51-479 (Rev. 3-68)

ATTACHMENT A-3

BATCH CONTROL SHEET

PRODUCT CODE________________

BATCH NUMBER________________

TYPE OF WORK________________

NEW______ RECYCLE______ EXPRESS________

I. DATA CONTROL SECTION

DATE RECEIVED____________ TIME_______ NO. ITEMS______ LOGGED______

PASSED TO KEYBOARDING:

DATE_______________ TIME____________

II. KEYBOARD SECTION

WORK COMPLETED BY______________________ DATE__________________
Operator Initials

NO. ITEMS______________________________ TAPE NUMBER_______________

III. DATA CONTROL SECTION

RECEIVED______________________ TAPE SENT TO DATA PROCESSING________
Date Time

IV. PROOFING SECTION

RECEIVED______________________
Date Time

PROOFED_______________ NO ERRORS__________________

PROOFED_______________ ERRORS_____________________

V. DATA CONTROL SECTION

RECEIVED______________________ BATCH TO PENDING RELEASE FILE________
Date Time

RELEASE TO KEYBOARDING__________ COLLATED & PASSED___________________

55-654

BATCH CONTROL LOG Attachment A-5

I. TYPE OF WORK____________________ PRODUCT CODE____________________

Date Rec'd	Batch No.	No. Items	D W D Typ'n	Passed to KBDG	To F F	To Proof	To Rec. F F	Collate & Pass

55-495 Rev. 2/68

Attachment A-6

MAGNETIC TAPE LOG
COMPOSITION SERVICES, DEPT. 55

A. SECTION ____________________

B. TYPIST ____________________

C. DATE ____________________

D. MACHINE NO. ____________________

E. JOB NAME ____________________

F. JOB NUMBER ____________________

G. TAPE NUMBER ____________________

H. NO. OF RECORDS ____________________

I. TAPE CHANNEL ____________________

Lowest Pg. Ref. or Batch No.	Highest Pg. Ref. or Tape No.	No. of Entries	Output Rec'd.	Comments

55-1007 (9-68)

ATTACHMENT A-7

```
                    C H E M I C A L   A B S T R A C T S   S E R V I C E
                                 OFFICE OF EDUCATION PROOFSHEET
   19:46 WEDNESDAY, OCTOBER 23, 1968                                                  PAGE     4

      KEYBOARDED BY  MARY ANN EPPS O                DATE KEYBOARDED  10-17-68  BATCH NUMBER USOE1E
  APPLICATION OE AP LST REEL NUMBER M441  DEVICE TYPE 1101    STATUS NEW         NUMBER OF WORK UNITS 050


                                      **BATCH USOE1E--WORK UNIT 001K**

  170  ACSNA   180  05 19 41

                                      **BATCH USOE1E--WORK UNIT 002L**

  170  AUEBA   180  05

                                      **BATCH USOE1E--WORK UNIT 003M**

  170  AAAMA4   180  03 27 42

                                      **BATCH USOE1E--WORK UNIT 004N**

  170  ADHAAO   180  04 05 13 26 40 42 43

                                      **BATCH USOE1E--WORK UNIT 005O**

  170  AAACA8   180  41 44

                                      **BATCH USOE1E--WORK UNIT 006P**

  170  AAAHAN   180  17 25 41 42

                                      **BATCH USOE1E--WORK UNIT 007Q**

  170  AAALAZ   180  41 44
```

ATTACHMENT A-8

RECYCLE BATCH CONTROL SHEET

I. DATA CONTROL SECTION

BATCH NUMBER __________

DAY'S WORK DATE ________

PASSED TO KEYBOARDING:

NO. ITEMS _______________

DATE ______ TIME _____

II. KEYBOARD SECTION

WORK KEYED BY ___________________ TIME _________________
Operator Initials

WORK VERIFIED BY ________________ TIME _________________
Operator Initials

NO. ITEMS _________________ TAPE NUMBER _________________

III. DATA CONTROL SECTION

RECEIVED _________________ TAPE SENT TO DATA PROCESSING:
Date Time DATE ________ TIME ______

NO. ITEMS _________________

ERROR PRINT-OUT MATCHED FOR PROOF _________________

IV. PROOFING SECTION

PROOFED ________________ NO ERRORS _______________

PROOFED ________________ ERRORS __________________

RELEASE BATCHES ________

V. DATA CONTROL SECTION

RECEIVED ______________ RELEASES TO KEYBOARDING ______
Date Time

RELEASED BATCHES TO PENDING RELEASE FILE ______________

APPENDIX 15
Interlibrary Loan File Data Control Procedures

CHEMICAL ABSTRACTS SERVICE LIBRARY

USOE CONTRACT INTERLIBRARY LOAN
FILE DATA CONTROL LOG BOOK

November 1967

This log book and associated procedures have been established to assure that sample interlibrary loan requests collected for the USOE contract are properly recorded and routed. These rules are to be rigidly followed during the interlibrary loan file building phase of the contract work.

The Log Book is Divided into four Sections:

I. Individual Log Sheets

II. General Log Sheets

III. Voided ID Numbers

IV. Key Punch Records

Section I: INDIVIDUAL LOG SHEETS

1. The Individual Log Sheets (see page 3) are arranged alphabetically by code for the resource library. These sheets are a log of Interlibrary Loan records received from the participating libraries.

2. The Individual Log Sheet is divided into three columns.

    1) The Description of Item contains the number of the shipment plus a description of the contents.

    2) Date In refers to the date the material was received.

    3) Date Out refers to the date the material was returned to the library or a notation that the material need not be returned.

3. Immediately following the Individual Log Sheets is an additional sheet (see page 4) to be used for any miscellaneous but pertinent information that would be beneficial for the staff in coding Data Sheets.

4. Each box of material is to be numbered upon receipt. When a box of materials is received. The Individual Log Sheet for the sending library is checked to determine what is the next consecutive number with which to label the carton of records. This number is immediately printed upon the box of materials.

5. The contents of the box is then checked and a description is written on the Individual Log Sheet.

6. The Date of Receipt is then recorded.

7. The Date that the material is returned to the sending library is recorded on the day the material is shipped out. If it is unnecessary to return the material, a notation is so made in the column designated Date Out.

U.S.O.E. CONTRACT

INTERLIBRARY LOAN REQUESTS RECEIPT AND RETURN CONTROL SHEET

LIBRARY CODE_____

DESCRIPTION OF SHIPMENT	DATE IN	DATE OUT

U.S.O.E. CONTRACT

INTERLIBRARY LOAN REQUEST RECEIPT AND RETURN CONTROL SHEET

LIBRARY CODE_____

MISCELLANEOUS INFORMATION:

Section II: GENERAL LOG SHEETS

1. The General Log Sheets (see page 6) are a record of material sent by participating libraries; the Date received; through what stages of processing the material has gone; in what form it arrived; and when the material is returned or destroyed.

2. The General Log Sheet is divided into eight (8) columns.

   1) Code for Organization material was received from

   2) Number of boxes

   3) Return?

   4) Date received by CAS

   5) Date sorted

   6) Date Xeroxed

   7) Date refiled

   8) Date returned or destroyed

3. In the "Code for Organization Material was Received from" column the code for the sending library and the box or carton number is recorded.

4. In the "Number of Boxes" column the number of boxes, packets, or cartons is recorded.

5. In the column tagged "Return?" a notation whether the material must be returned is made. This is indicated by yes or no.

6. The fourth column marked "Date Received by CAS" contains the date of receipt.

7. If the material received must be Xeroxed, the date of photoduplication is recorded in the column tagged "Date Xeroxed." If the material does not have to be Xeroxed or is received in Xerox form, a long dash is entered in this column.

9. If the material has been sorted, it must be refiled into the main body of material. The date this is completed is then recorded in the column tagged "Date Refiled."

10. If the material must be returned to the sending library, the date that it is sent out is recorded in the column marked "Date Returned or Destroyed." If CAS is to destroy a sending library's material, the date this is completed is also recorded in this column.

U.S.O.E. CONTRACT

INTERLIBRARY LOAN REQUEST PROCESSING CONTROL SHEET

LIBRARY CODE	NO. OF BOXES	RETURN		DATE RECEIVED	DATE SORTED	DATE XEROXED	DATE REFILED	DATE RETURNED OR DESTROYED
		YES	NO					

Section III: VOIDED ID NUMBERS

1. The third section of the Log Book is a list of voided ID Numbers (see page 8). This is to enable the staff to determine the number of Data Sheets that have been coded for the study.

2. The ID Numbers are simply recorded in columns. When the ID Numbers have been recorded, the voided Data Sheet can then be destroyed.

LIST OF VOIDED ID NUMBERS

Section IV: KEY PUNCHING RECORDS

1. Coded Data Sheets will be sent to key punching. This record (see page 10) is kept to control the number of Data Sheets that are sent to key punching and the number that return.

2. The key punching record is divided into six columns.

    1) Date sent

    2) Date returned

    3) Number sent

    4) Number returned

    5) Beginning ID Number

    6) Ending ID Number

3. Before a batch of Data Sheets are sent to key punching, they are counted and that number is recorded.

4. The ID Numbers of the first and last Data Sheet per group are recorded.

5. The date that these counted Data Sheets are sent to key punching is recorded.

6. When these Data Sheets return, they are again counted, and this number is recorded.

7. The date they are returned is recorded.

ITEMS SENT TO KEYPUNCHING

Date Sent	Date Returned	Number Sent	Number Returned	Beginning ID Number	Ending ID Number

APPENDIX 16

Sample Interlibrary Loan Data Collection Form

CHEMICAL ABSTRACTS SERVICE LIBRARY
OEC INTERLIBRARY LOAN STUDY DATA SHEET

ID NUMBER

	DATA ELEMENT DESCRIPTION	EXAMPLE	TAG	VARIABLE DATA	
1	Code for lending library	7 Numbers	01		1
2	Code for borrowing library	7 Numbers	03		2
3	Date of request	MMDDYY	05		3
4	Date lending library received the request	MMDDYY	07		4
5	Date lending library filled the request	MMDDYY	09		5
6	Date of notification of non-fulfillment	MMDDYY	11		6
7	Date borrowing library dropped the request	MMDDYY	13		7
8	Date borrowing library received item	MMDDYY	15		8
9	Coden for title requested	6 Characters	17		9
10	Volume number	4 or 8 Alpha/No.	19		10
11	Issue and/or part number	4 or 8 Alpha/No.	21		11
12	Date	MMDDYYY-MMDDYYY	23		12
13	Beginning page	5 Alpha/No.	25		13
14	Ending page	5 Alpha/No.	27		14
15	Language of item requested	2 Letters	29		15
16	Was citation verified	1 Letter	31		16
17	Degree of difficulty in filling request	R, N or D	33		17
18	Indication of faulty reference	X	35		18
19	Filled by microfilm, photocopy or original	M, P or O	37		19
20	Code for union list used to refer borrower	3 Letters	39		20
21	Not sent because	1 Letter	41		21
22	Multiple order	01-01	43		22
23	Name of individual who requested item	5 Letters	45		23
24	Form of Request: ALA/LET/TWX/TEL/WAL	3 Letters	47		24

6-767

APPENDIX 17

Interlibrary Loan File Data Collection Sheet Coding Manual

OEC PROJECT DATA COLLECTION CODING MANUAL

This manual is a guide for OE study information processors who must, prior to computer input, code data received from the participating libraries.

A sample interlibrary loan request form and a sample data sheet follow this introduction. Request forms are filled out by the libraries for all transactions to be submitted for this study. When such a form is received at CAS, the information is transferred to a data sheet, using the coding system described in the Coding Manual. Both sample forms have been filled out to suggest what happens at this phase of the study and how the codes are employed.

The Coding Manual itself follows the order by Tag Number of sample data sheet items.

OE PROJECT DATA COLLECTION

CODING MANUAL

TAGS 01 and 03 CODES FOR BORROWING AND LENDING LIBRARIES

1. The code for borrowing and lending libraries in the United States is created from the five digit U.S. Mail Zip Code plus two (2) other digits assigned by the staff. The last two digits are necessary to distinguish among libraries that might have the same zip code. e.g., In Columbus there are the CAS Library and the many OSU Libraries, all of which have the same zip code:

   A. The CAS Library would code---------------------------- 4321001.

   B. The OSU Main Library would code----------------------- 4321002.

   C. The OSU Health Center Library would code-------------- 4321003.

   Note: All zeroes are slashed --- ∅

2. If an individual rather than a library is the requestee, he is considered the Library Generating the Request (Tag 03). This is coded by using the requestee's zip code plus 99. These codes are on file in the Library Location Code File. See Page 3 #4.

   e.g.
   A. John Jones
   255 Alexander St.
   Columbus, Ohio 43206 would code 4320699.

e.g.
A. John Jones
255 Alexander St.
Columbus, Ohio 43206 would code 4320699.

3. The code for foreign borrowing libraries is also a seven (7) digit code. It is the letter B plus 6 digits.

e.g.
A. The National Central Library, London, would code------- B000001.

B. The National Lending Library would code---------------- B000002.

4. A Library Location Code File has been created and is to be checked before coding each Data Sheet.

5. The purpose of this code is to identify participating libraries geographically without revealing their identities. It will also enable sorting of the records by type of borrowing library.

TAG 05 DATE OF REQUEST

1. The Date of Request is that date upon which the borrowing library initiated an ILL request. (It is found in the upper left hand corner of all ALA ILL forms) For letters and private forms this date is usually easily identified.

2. The Date of Request is a six (6) digit code: 1) two digits for the month; 2) two digits for the day; 3) two digits for the year.

   A. Month: These are numbered 01-12 consecutively January - December. If the month is only one digit, e.g., February, it must be preceeded by a slashed zero e.g., 02.

   B. Day: If the day is only one digit, it must also be preceeded by a slashed zero, e.g., 05.

   C. Year: Only the last two digits are used. e.g., May 13, 1955. (If a request has been made via phone or TWX rather than by letter or ALA ILL form, the date of request is the same as the Received Request). The year 1955 would code 55.

   D. The entire date of May 13, 1955 would then code 051355.

TAG 07 DATE LENDING LIBRARY RECEIVED REQUEST

1. This date is that date upon which the lending library received a request from a borrowing library via mail, phone, or TWX. If the request is made via phone or TWX, the Date of Request and the Date the Lending Library Received the Request are the same.

2. For the current samples this date will be supplied by the participating libraries. For the retrospective samples, this date is not always supplied.

2. It is coded the same as the Date of Request.

TAG 09 DATE LENDING LIBRARY FILLED THE REQUEST

1. This denotes the date when the lending library filled the request, answered the request or sent the request.

TAG 11 DATE LENDING LIBRARY NOTIFIED LIBRARY OF NON-FULFILLMENT

1. This denotes the date a lending library notified a borrowing library that the material requested could not be sent. In many cases this date is not supplied. However, if the date is supplied, it is coded the same as the Date of Request.

TAG 13 DATE LENDING LIBRARY DROPPED REQUEST

1. To obtain a needed journal article, a library may have to contact several libraries. After having done so and still unable to get the article, the library may choose to discontinue the search. The date upon which all searching was stopped may be noted on the request form or letter. This date is the dropped date.

2. If this date is supplied, it is coded the same as the Date of Request.

TAG 15 DATE BORROWING LIBRARY RECEIVED REQUESTED ITEM

1. This date designates the receipt of requested library materials.

2. This date is usually supplied on ILL request forms or letters. It is important because from it will be determined the average length of time to fill a request from the date of request to the date the borrowing library has actually received the requested materials.

3. If this date is supplied, it is coded the same as the Date of Request.

TAG 17 CODE FOR TITLE REQUESTED

1. A standard CODEN to identify journal titles for computer entry has been compiled by the American Society of Testing Materials. Journal titles identified in the analysis of ILL activities will be assigned the standard CODEN when possible. Those journal titles and conference proceedings that have not been assigned a standard CODEN will be assigned a Dummy CODEN.

e.g.
Z00002

4. A file has been created for these CODENS. This file must be checked before coding the Data Sheet.

TAG 19 VOLUME NUMBER

1. In most cases a correct citation will indicate the volume number. This volume number will be coded in a four (4) digit block. If the volume number is only one (1) or two (2) digits, the volume number or numbers must be preceeded by a slashed zero.

   e.g.
   A. Volume 1113 would be coded------------- 1113

   B. Volume 7 would be coded---------------- 0007

   C. Volume 10 would be coded--------------- 0010

2. In those situations in which two separate volume numbers are contained in one bound journal, an eight (8) digit code is used. A citation for two separate volumes contained in one journal would read volume 15-16. The code would be 0015-0016. As is indicated in the above code, any volume number that is fewer than four (4) digits is preceeded by slashed zero or zeroes.

3. If a series number is given without a volume number, the series number is coded as a volume number.

4. If a series number is given with a volume number, the series number is ignored.

TAG 21 ISSUE NUMBER

1. The issue number is an alpha and/or number code. It is not less than 4 characters; not more than 10 characters.

2. Tag 21 Issue Number covers issue numbers, part numbers, and report numbers.

3. The Issue Number must always appear in the first four positions. If the issue number is fewer than four (4) characters, it is preceeded by slashed zeroes.

   e.g.
   A. Issue Number 5 would code------------------ 0005

   B. Issue Number 27 would code----------------- 0027

   C. Issue Number 1132 would code--------------- 1132

4. Part Number
If a Part number is given without an issue number, it is coded as follows:

Part A, Vol. 7, 1958------------------0000-000A

5. If a part number is given with an issue number, it is coded as follows:

Part A, Vol. 7, No. 4, 1958----------0004-000A

Note: Issue number appears in the first four positions.

6. Report Number
If the requested material is a report, the number of the report is recorded in Tag 21 Issue Number.

7. Tag 21 is not more than 10 alpha and/or number characters. If a report number exceeds 10 characters, the first 10 characters are entered, ignoring any succeeding characters.

e.g.
A. NASA TN5209 would code---------------- NASATN5208

B. AD 260120 would code------------------ AD260120

C. NNSD-NSPS 502 would code-------------- NNSDNSPS50

TAGS 25 and 27 PAGES

1. The pages of an article are divided into Beginning Pages and Ending Pages, each with its own separate Tag and Variable Data space. Beginning Pages is Tag 25; Ending Pages, Tag 27.

2. Beginning Pages
The Beginning Pages code is a five (5) character alpha and/or number code. If the number of pages is fewer than five (5) characters it is preceeded by slashed zero or zeroes.

e.g.
A. Page 27 would code------------------ 00027

B. Page 312 would code----------------- 00312

3. If the page is preceeded or succeeded by a letter, the letter is coded along with the numbers. The Pages code is always a five (5) character code.

e.g.
A. Page 58A would code----------------- 0058A

B. Page B71 would code----------------- 00B71

4. Ending Pages
Ending Pages are coded the same as the Beginning Pages except Ending Pages are entered in Tag 27 slot.

5. If an entire volume is requested, the code 00000 is entered in the Beginning Pages slot. (This is a five (5) character code also).

If a sequence of page numbers is found on a request form and it would seem that only one continued article is cited, only the Beginning Page is recorded. If, however, the sequence of numbers would seem to indicate more than one article, it is recorded as a Multiple Order and both the Beginning and Ending Pages are recorded.

e.g.

A. Journal of the American Chemical Society
71(5), 217-219, 301 would code as a continued article
with only the Beginning Pages recorded: 00217.

B. Journal of the American Chemical Society
85(1), 99-103, 171-179, 203-205 would code as a Multiple Order with both Beginning and Ending Pages of each set of pages recorded:

1. 00099 would be entered in Beginning Pages, and 00103 would be entered in Ending Pages on the first Data Sheet.

2. 00171 would be entered in Beginning Pages, and 00179 would be entered in Ending Pages on the second Data Sheet, etc.

TAG 23 DATE

1. This Date is the date of the volume which may be given with 1) a month and day and year, 2) a month and year, or 3) simply a year. The code for this date is seven (7) digits: two for the month, two for the day, and three for the year. The last three digits of a year are coded to distinguish between a volume dated 1864 and one dated 1964, etc.

e.g.

A. 8:19-30, November 15, 1793 would code-------- 1115793.

B. 8:19-30, January, 1864 would code------------ 0100864.

C. 8:19-30, 1964 would code--------------------- 0000964.

(The rule for slashed zero or zeroes is also applicable here).

2. If the date of a volume extends from one year to another, e.g., 1915-1916, the code is a fourteen (14) digit code. Each volume date is coded the same as above and connected with a dash.

e.g.
A. 8:9-30, 1915-1916 would code---------------------------- 0000915-0000916.

B. 8:11-12, July 1915-June 1916 would code------------------ 0700915-0600916.

C. 8:11-12, July 15, 1915-June 9, 1916 would code---------- 0715915-0609916.

TAG 29 LANGUAGE OF ITEM REQUESTED

1. The language of a requested item is a two (2) digit code which is derived from a computer abbreviation language code created by the CAS Systems Development Division, See Appendix pages c-e. e.g., English would code EN.

2. If a journal title and an article title are in different languages, e.g., The journal title is French and the article title is German, the language of the article title is coded.

3. However, if the above situation occurs and the source of verification is CA (See Code for Source in Which Item was Verified below), the language of the journal is coded.

   Note: CA translates all article titles into English.

   If the language is ultimately indeterminable, a code of XX is recorded for Language of Article Requested.

TAG 31 CODE FOR SOURCE IN WHICH ITEM WAS VERIFIED

1. Before a library sends out an ILL request, it usually verifies the data supplied by the requestee by checking the request against an abstract journal, a union list, or catalogue for the precise title and location of a library that has the requested item. The abstract journal, union list or catalogue which is checked is the Source of Verification.

2. The code for this is a one (1) character code.

   A. If a Source of Verification is given, an X = yes is entered on the Data Sheet.

   B. If no Source of Verification is given, an N = no is entered.

TAG 33 DEGREE OF DIFFICULTY IN FILLING REQUEST

1. The codes for the Degree of Difficulty in Filling a Request are R - routine, N - non-routine; and D - difficult. This code is applicable only to the current sample, not the retrospective sample. This code which is supplied to us by the participating libraries is found on the upper margin of the ALA ILL form. (It is a one-letter code).

TAG 35 INDICATION OF FAULTY REFERENCE

1. When a library receives an ILL request that is incorrect or garbled, it is considered a Faulty Reference. This is a one-letter code indicated by X. (On the actual request, however, this type of reference will be indicated by the code G by the participating libraries).

TAG 37 FILLED BY MICROFILM, PHOTOCOPY OR ORIGINAL

1. A borrowing library may request an item that a lending library does not circulate. If this situation arises, the lending library may send a microfilm copy or a photocopy (Xerox). This is indicated on the ILL form. Each code is a one-letter code: M - microfilm; P - photocopy (Xerox).

2. The library may send the Original journal, the one-letter code for which is O - original.

TAG 39 CODE FOR UNION LIST USED TO REFER BORROWER

1. If a lending library receives a request for an item which it does not own, it may refer the borrower to another library sometimes giving the source of verification for this referral.

2. The code for this is the same as Code for Source of Verification - a three (3) digit code.

3. This information is applicable only to the current sample, not the retrospective sample and is to be supplied to us by the participating libraries.

TAG 41 NOT SENT BECAUSE ...

1. A lending library may receive a request for an item which it is unable to send for various reasons to the borrowing library. If this situation arises, the lending library will return the ILL form or letter to the borrowing library, having checked or indicated why an item was not sent.

2. An open code has been created for each reason an item was not sent. It is a one-letter code. For these codes, See Appendix page f.

TAG 43 MULTIPLE ORDER

1. The ILL request forms to be coded can be classified into two categories:

   A. A request that asks for a single article on a single form, letter, TWX or telephone message.

   B. A request that asks for more than one article.

2. These latter requests are called Multiple Requests or Orders. When coding these Multiple Requests, a separate Data Sheet is used for each request.

3. Multiple Requests can be of several types:

   A. More than one article is requested from the same serial:
   1:17-19; 27-28; 42-56 (1965)

   B. More than one volume is requested:
   1:17-19 (1965)
   3:27-28 (1967)

   C. More than one article from more than one serial is requested:

   e.g.
   1) Biochemistry 17(3), 131-49 (1955)

   2) Journal of Medicine 1966, pp. 123-129

   3) IEEE Transactions, PGRA 27(1), 18-27 (1955)

Note: This will be a common occurrence when coding letter and TWX requests.

4. Since positive differentiation between requests that may be either:

   A. Articles printed on non-consecutive pages in an issue

   B. Articles that are continued through several issues of a serial

   C. Several articles in an issue

   cannot be made, all of these are considered different articles and are coded as such. Each of these is considered a separate request and a separate Data Sheet is used for each.

5. Each Data Sheet generated from Multiple Requests must be indicated by coding the number of different items included on the same ILL request form, letter, TWX or telephone message.

6. This is a four (4) digit code connected by a dash. e.g., 01-01 The last two digits of the code represent the total number of requests per this one form. The first two digits represent the consecutive number of the request.

   e.g.
   A. The code for the third item in a request of 15 would be 03-15.

   B. The code for the seventh item in a request of 15 would be 07-15.

7. The purpose of this code is to enable us to determine the effect Multiple Orders has on the timeliness of fulfillment of ILL requests.

TAG 45 NAME OF INDIVIDUAL WHO REQUESTED ITEM

1. The first five letters of the borrowers last name will be coded on the Data Sheet so that the information on it can be correlated. If the borrowers last name is fewer than five (5) letters, those letters are succeeded by the letter X.

e.g.
A. Borrower Tree would be coded------------------ TREEX.

B. Borrower Key would be coded------------------- KEYXX.

C. Borrower Lipowitz would be coded-------------- LIPOW.

TAG 47 FORM OF REQUEST

1. A request may be received in several different forms:

e.g.
A. An American Library Association Form------------------- ALA

B. A letter--- LET

C. TWX (teletype form)------------------------------------ TWX

ID NUMBER

1. Each OEC Study Data Sheet is stamped with its own ID Number before it is coded.

2. This ID Number is necessary for computer control.

3. The ID Number is composed of a six (6) digit number. e.g., ID 123456.

LONG DASH

1. When no information is given for a particular Tag, a Long Dash is entered in the Variable Data Slot. This is to insure that all tags on the Data Sheet have been checked.

e.g.

DATA ELEMENT DESCRIPTION	EXAMPLE	TAG	VARIABLE DATA
Not sent because	1 Letter	41	————

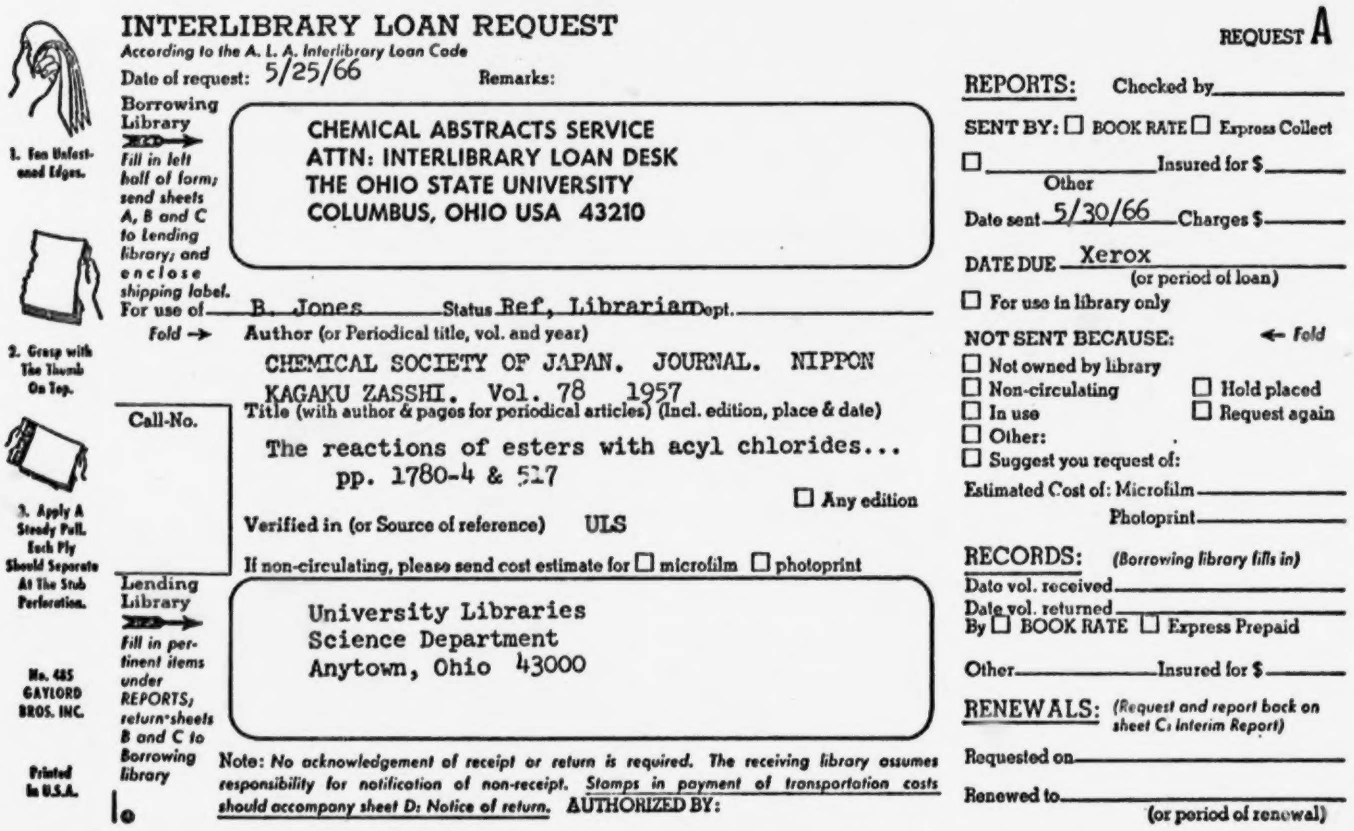
CHEMICAL ABSTRACTS SERVICE LIBRARY
OEC INTERLIBRARY LOAN STUDY DATA SHEET

ID NUMBER

	DATA ELEMENT DESCRIPTION	EXAMPLE	TAG	VARIABLE DATA	
1	Code for lending library	7 Numbers	01	1002701	1
2	Code for borrowing library	7 Numbers	03	4321003	2
3	Date of request	MMDDYY	05	080466	3
4	Date lending library received the request	MMDDYY	07	082366	4
5	Date lending library filled the request	MMDDYY	09	—	5
6	Date of notification of non-fulfillment	MMDDYY	11	080766	6
7	Date borrowing library dropped the request	MMDDYY	13	—	7
8	Date borrowing library received item	MMDDYY	15	—	8
9	Coden for title requested	6 Characters	17	BIBUA	9
10	Volume number	4 or 8 Alpha/No.	19	0061	10
11	Issue and/or part number	4 or 8 Alpha/No.	21	—	11
12	Date	MMDDYYY-MMDDYYY	23	0000931	12
13	Beginning page	5 Alpha/No.	25	00087	13
14	Ending page	5 Alpha/No.	27	00092	14
15	Language of item requested	2 Letters	29	EN	15
16	Was citation verified	1 Letter	31	X	16
17	Degree of difficulty in filling request	R, N or D	33	—	17
18	Indication of faulty reference	X	35	—	18
19	Filled by microfilm, photocopy or original	M, P or O	37	—	19
20	Code for union list used to refer borrower	3 Letters	39	—	20
21	Not sent because	1 Letter	41	O	21
22	Multiple order	01-01	43	—	22
23	Name of individual who requested item	5 Letters	45	SMITH	23
24	Form of Request: ALA/LET/TWX/TEL/WAL	3 Letters	47	ALA	24

6-767

SAMPLE INTERLIBRARY LOAN REQUEST FORM



INTERLIBRARY LOAN REQUEST REQUEST **A**

According to the A. L. A. Interlibrary Loan Code

Date of request: 5/25/66 Remarks:

Borrowing Library → *Fill in left half of form; send sheets A, B and C to Lending library; and enclose shipping label.*

CHEMICAL ABSTRACTS SERVICE
ATTN: INTERLIBRARY LOAN DESK
THE OHIO STATE UNIVERSITY
COLUMBUS, OHIO USA 43210

For use of B. Jones Status Ref, Librarian Dept.

Fold → Author (or Periodical title, vol. and year)

CHEMICAL SOCIETY OF JAPAN. JOURNAL. NIPPON KAGAKU ZASSHI. Vol. 78 1957

Call-No.

Title (with author & pages for periodical articles) (Incl. edition, place & date)

The reactions of esters with acyl chlorides...
pp. 1780-4 & 517

☐ Any edition

Verified in (or Source of reference) ULS

If non-circulating, please send cost estimate for ☐ microfilm ☐ photoprint

Lending Library → *Fill in pertinent items under REPORTS; return sheets B and C to Borrowing library*

University Libraries
Science Department
Anytown, Ohio 43000

Note: *No acknowledgement of receipt or return is required. The receiving library assumes responsibility for notification of non-receipt. Stamps in payment of transportation costs should accompany sheet D: Notice of return.* AUTHORIZED BY:

1. Fan Unfastened Edges.

2. Grasp with The Thumb On Top.

3. Apply A Steady Pull. Each Ply Should Separate At The Stub Perforation.

No. 485
GAYLORD BROS. INC.

Printed in U.S.A.

REPORTS: Checked by

SENT BY: ☐ BOOK RATE ☐ Express Collect

☐ Other Insured for $

Date sent 5/30/66 Charges $

DATE DUE Xerox (or period of loan)

☐ For use in library only

NOT SENT BECAUSE: ← *Fold*

☐ Not owned by library
☐ Non-circulating
☐ In use
☐ Other:
☐ Suggest you request of:
☐ Hold placed
☐ Request again

Estimated Cost of: Microfilm
Photoprint

RECORDS: *(Borrowing library fills in)*

Date vol. received
Date vol. returned
By ☐ BOOK RATE ☐ Express Prepaid
Other Insured for $

RENEWALS: *(Request and report back on sheet C: Interim Report)*

Requested on
Renewed to (or period of renewal)

APPENDIX 18

DIRECTORY OF U.S. LIBRARIES THAT PROVIDED DATA ON THEIR HOLDINGS FOR ACCESS

DIRECTORY OF PARTICIPATING LIBRARIES, ACCESS 1969

Alabama

AAP
The Ralph Brown Draughon Library,
Auburn University,
Auburn, Ala. 36830

AB
Technology Department,
Birmingham Public and Jefferson County Free Library,
2020 Seventh Avenue, North,
Birmingham, Ala. 35203

ABSR
Southern Research Institute Library,
2000 Ninth Avenue, South,
Birmingham, Ala. 35205

ARaS
Redstone Scientific Information Center,
U. S. Army Missile Command,
Research and Development Directorate,
Redstone Arsenal, Ala. 35809

ATVA
Technical Library,
Tennessee Valley Authority,
National Fertilizer Development Center,
Muscle Shoals, Ala. 35660

AU-M
University of Alabama Medical Center Library,
1919 Seventh Avenue, South,
Birmingham, Ala. 35233

Alaska

AkKF
Technological Laboratory Library,
Bureau of Commercial Fisheries,
622 Mission Street,
Ketchikan, Alaska 99901

AkU
University of Alaska Library,
College, Alaska 99735

Arkansas

ArU
Vol Walker Memorial Library,
University of Arkansas,
Fayetteville, Ark. 72703

ArU-M Medical Center Library,
University of Arkansas,
4301 West Markham Street,
Little Rock, Ark. 72201

Arizona

AzTeS Arizona State University Library,
Tempe, Ariz. 85281

AzU University of Arizona Library,
Tucson, Ariz. 85721

California

C Periodicals Section,
California State Library,
Sacramento, Calif. 95809

CEvS Shell Development Company Library,
1400--53rd Street,
Emeryville, Calif. 94608

CL Los Angeles Public Library,
630 West Fifth Street,
Los Angeles, Calif. 90017

CLSU University of Southern California Library,
University Park,
Los Angeles, Calif. 90007

CLSU-H Hancock Library of Biology and Oceanography,
Allan Hancock Foundation,
University of Southern California,
Los Angeles, Calif. 90007

CLSU-M School of Medicine Library,
University of Southern California,
2025 Zonal Avenue,
Los Angeles, Calif. 90033

CLU The University Library,
University of California, Los Angeles,
Los Angeles, Calif. 90024

CLU-M Biomedical Library,
University of California, Los Angeles,
Los Angeles, Calif. 90024

CMenSR	Stanford Research Institute Library, Menlo Park, Calif. 94025
CPT	Millikan Library, California Institute of Technology, Pasadena, Calif. 91109
CPgH	Library, Hopkins Marine Station, Pacific Grove, Calif. 93950
CSd	Science and Industry Section, San Diego Public Library, 820 E Street, San Diego, Calif. 92101
CSf	Periodical Department, San Francisco Public Library, Civic Center, San Francisco, Calif. 94102
CSfMI	Mechanics' Institute Library, 57 Post Street, San Francisco, Calif. 94104
CSt	Stanford University Libraries, Stanford University, Stanford, Calif. 94305
CSt-L	Lane Medical Library, Stanford University Medical Center, Stanford, Calif. 94305
CStbS	Sciences-Engineering Library, University of California, Santa Barbara, Calif. 93106
CU	Library Photographic Service, General Library, University of California, Berkeley, Calif. 94720
CU-A	The General Library, University of California, Davis, Davis, Calif. 95616
CU-I	The University Library, University of California, Irvine, Irvine, Calif. 92664

CU-M The Library,
Medical Center,
University of California, San Francisco,
Parnassus Avenue,
San Francisco, Calif. 94122

CU-Riv General Library,
University of California, Riverside,
Riverside, Calif. 92502

CU-RivA Bio-Agricultural Library,
University of California, Riverside
Riverside, Calif. 92502

CU-S The University Library,
University of California, San Diego,
La Jolla, Calif. 92037

CU-SC The University Library,
University of California, Santa Cruz,
Santa Cruz, Calif. 95060

Colorado

CoD Denver Public Library,
1357 Broadway,
Denver, Colo. 80203

CoFS The Libraries,
Colorado State University,
Fort Collins, Colo. 80521

CoG Arthur Lakes Library,
Colorado School of Mines,
Golden, Colo. 80401

CoU University of Colorado Libraries,
Boulder, Colo. 80304

CoU-M Denison Memorial Library,
University of Colorado Medical Center,
4200 East 9th Avenue,
Denver, Colo. 80220

Connecticut

CtB	Bridgeport Public Library, 925 Broad Street Bridgeport, Conn. 06603
CtH	Business, Science & Technology Department, Hartford Public Library, 500 Main Street, Hartford, Conn. 06103
CtU	Wilbur Cross Library, University of Connecticut, Storrs, Conn. 06268
CtW	Wesleyan University Library, Middletown, Conn. 06457
CtWB	Silas Bronson Library, 267 Grand Street, Waterbury, Conn. 06702
CtY-KS	Kline Science Library, Room C-8, Kline Biology Tower, Yale University, New Haven, Conn. 06520
CtY-M	Yale Medical Library, 333 Cedar Street, New Haven, Conn. 06510

District of Columbia

DAL	Army Library, Department of the Army, Room 1A-518, Pentagon, Washington, D. C. 20310
DBS	National Bureau of Standards Library, Washington, D. C. 20234
DGU	Science Library -- Reiss Building, Georgetown University, 37th and O Streets, N.W. Washington, D. C. 20007

DLC Library of Congress,
Washington, D. C. 20540

DNAL USDA Division of Lending,
National Agricultural Library,
Washington, D. C. 20250

DNAS-NAE National Academy of Sciences Library,
2101 Constitution Avenue,
Washington, D. C. 20418

DP Patent Office Search Center,
Patent Office,
Washington, D. C. 20231

Delaware

DeU Hugh M. Morris Library,
University of Delaware,
Newark, Del. 19711

DeWDJ Jackson Laboratory Library,
E. I. du Pont de Nemours and Company,
P. O. Box 525,
Wilmington, Del. 19899

DeWDL Lavoisier Library,
E. I. du Pont de Nemours and Company,
Central Research Department,
Experimental Station,
Wilmington, Del. 19898

DeWDT Technical Library,
E. I. du Pont de Nemours and Company,
Room 3149 du Pont Building,
Wilmington, Del. 19898

DeWH Research Center Library,
Technical Information Division,
Hercules Incorporated,
Wilmington, Del. 19899

DeWHI Library (Room 963),
Hercules Incorporated,
910 Market Street,
Wilmington, Del. 19899

Florida

FMU University of Miami Library,
Coral Gables, Fla. 33124

FMU-M School of Medicine Library,
University of Miami,
Box 875, Biscayne Annex,
Miami, Fla. 33152

FTaSU Science and Technology Division,
Robert Manning Strozier Library,
Florida State University,
Tallahassee, Fla. 32306

FU University of Florida Libraries,
Gainesville, Fla. 32601

Georgia

GAT Price Gilbert Memorial Library,
Georgia Institute of Technology,
225 North Avenue, N. W.
Atlanta, Ga. 30332

GEU Emory University Library,
Atlanta, Ga. 30322

GEU-M A. W. Calhoun Medical Library,
Woodruff Research Building,
Emory University,
Atlanta, Ga. 30322

GLagCM Coleman Library,
Callaway Educational Association,
LaGrange, Ga. 30240

GU University of Georgia Libraries,
Athens, Ga. 30601

Hawaii

HHS Library,
Hawaiian Sugar Planters' Association,
Experiment Station,
1527 Keeaumoku Street,
Honolulu, Hawaii 96822

HU Graduate Research Library,
University of Hawaii,
2550 The Mall,
Honolulu, Hawaii 96822

HU-EWC East West Center Library,
Center for Cultural and Technical Interchange
Between East and West,
Honolulu, Hawaii 96822

Illinois

IArg Library Services Department,
Argonne National Laboratory,
9700 South Cass Avenue,
Argonne, Ill. 60439

IC Central Library Public Service,
Applied Science & Technology Department,
The Chicago Public Library,
78 East Washington Street,
Chicago, Ill. 60602

ICAI Louis Livingston Library of Baking,
American Institute of Baking,
400 East Ontario Street,
Chicago, Ill. 60611

ICI Illinois Institute of Technology Library,
c/o John Crerar Library,
35 West 33rd Street,
Chicago, Ill. 60616

ICJ The John Crerar Library,
35 West 33rd Street,
Chicago, Ill. 60616

ICL Elizabeth M. Cudahy Memorial Library,
Loyola University,
6525 North Sheridan Road,
Chicago, Ill. 60626

ICL-M Loyola University Medical Center,
Library,
2160 South First Avenue,
Maywood, Ill. 60153

ICRL
Center for Research Libraries,
5721 Cottage Grove Avenue,
Chicago, Ill. 60637

ICSC
Research & Development Center Library,
Swift and Company,
1919 Swift Drive,
Oak Brook, Ill. 60521

ICarbS
Morris Library,
Southern Illinois University,
Carbondale, Ill. 62901

IEN
Northwestern University Library,
Evanston, Ill. 60201

IEN-M
Archibald Church Medical Library,
Northwestern University,
303 East Chicago Avenue,
Chicago, Ill. 60611

INcA
Abbott Laboratories Library,
1400 Sheridan Road,
North Chicago, Ill. 60064

IU
University of Illinois Library,
Urbana, Ill. 61801

IU-M
Library of Medical Sciences,
University of Illinois,
P. O. Box 7509,
Chicago, Ill. 60680

Iowa

Ia-M
Iowa State Medical Library,
Historical Building,
Des Moines, Iowa 50319

IaAS
Iowa State University Library,
Ames, Iowa 50010

IaU
University of Iowa Libraries,
Iowa City, Iowa 52240

Idaho

IdU The Library,
University of Idaho,
Moscow, Idaho 83843

Indiana

InI Science and Technology Division,
Indianapolis-Marion County Public Library,
40 East St. Clair Street,
Indianapolis, Ind. 46204

InIL Scientific Library,
Eli Lilly and Company,
P. O. Box 618,
Indianapolis, Ind. 46206

InLP Purdue University Libraries,
Lafayette, Ind. 47907

InU Indiana University Library,
Bloomington, Ind. 47401

InU-M School of Medicine Library,
Indiana University,
1100 West Michigan Street,
Indianapolis, Ind. 46202

Kansas

KMK Kansas State University Libraries,
Manhattan, Kans. 66502

KU Interlibrary Loan Section,
University of Kansas Libraries,
Lawrence, Kans. 66044

KU-M Clendening Medical Library,
University of Kansas Medical Center,
Kansas City, Kans. 66103

KWi Wichita Public Library,
223 South Main Street,
Wichita, Kans. 67202

Kentucky

KyLoU
University of Louisville Library,
Belknap Campus,
Louisville, Ky. 40208

KyLoU-M
Kornhauser Medical Library,
University of Louisville School of Medicine,
101 West Chestnut Street,
Louisville, Ky. 40202

KyU
University of Kentucky Libraries,
Lexington, Ky. 40506

KyU-ASC
Agriculture Library,
Agricultural Science Center,
University of Kentucky,
Lexington, Ky. 40506

KyU-M
Medical Center Library,
University of Kentucky,
Lexington, Ky. 40506

Louisiana

LNHT
Tulane University Library,
New Orleans, La. 70118

LNT-M
Rudolph Matas Medical Library,
Tulane University,
1430 Tulane Avenue,
New Orleans, La. 70112

LU
Library,
Louisiana State University,
Baton Rouge, La. 70803

Massachusetts

MB
Boston Public Library,
Copley Square,
P. O. Box 286,
Boston, Mass. 02117

MBCo
Francis A. Countway Library of Medicine,
10 Shattuck Street,
Boston, Mass. 02115

MBP
Sheppard Library,
Massachusetts College of Pharmacy,
179 Longwood Avenue,
Boston, Mass. 02115

MBU-M
Medical Library,
Boston University School of Medicine,
80 East Concord Street,
Boston, Mass. 02118

MCA
Library,
Arthur D. Little, Inc.,
15 Acorn Park,
Cambridge, Mass. 02140

MCM
Massachusetts Institute of Technology Libraries,
Cambridge, Mass. 02139

MH
Widener Library,
Harvard University,
Cambridge, Mass. 02138

MH-C
Chemistry Library,
Harvard University,
12 Oxford Street,
Cambridge, Mass. 02138

MHILC
Hampshire Inter-Library Center, Inc.
c/o The Library,
University of Massachusetts,
Amherst, Mass. 01002

MLowT
Alumni Memorial Library,
Lowell Technological Institute,
Lowell, Mass. 01854

MMet
Tufts University Library,
Medford, Mass. 02155

MNS
Smith College Library,
Northampton, Mass. 01060

MW
Worcester Free Public Library,
Salem Square,
Worcester, Mass. 01608

MWC Robert Hutchings Goddard Library,
Clark University,
Worcester, Mass. 01610

MWP George C. Gordon Library,
Worcester Polytechnic Institute,
Worcester, Mass. 01609

MWhB Library,
Marine Biological Laboratory,
Woods Hole, Mass. 02543

MWiW Williams College Library,
Williamstown, Mass. 01267

Maryland

MdBE Enoch Pratt Free Library,
400 Cathedral Street,
Baltimore, Md. 21201

MdEdgA Technical Library,
Edgewood Arsenal,
Building 3330,
Edgewood Arsenal, Md. 21010

MdU McKeldin Library,
University of Maryland,
College Park, Md. 20742

MdU-C Chemistry Library,
University of Maryland,
College Park, Md. 20742

MdU-E Engineering and Physical Sciences Library,
University of Maryland,
College Park, Md. 20742

Maine

MeU Raymond H. Fogler Library,
University of Maine,
Orono, Maine 04473

Michigan

MiD
Detroit Public Library,
5201 Woodward Avenue,
Detroit, Mich. 48202

MiDW
Science Library,
Wayne State University,
Detroit, Mich. 48202

MiDW-M
Medical Library,
Wayne State University,
645 Mullett Street,
Detroit, Mich. 48226

MiKUp
Technical Library 25-7,
The Upjohn Company,
Kalamazoo, Mich. 49001

MiMidD
Chemical Library,
Dow Chemical Company,
P. O. Box 566,
Midland, Mich. 48640

MiMidDC
Library (22),
Dow Corning Corporation,
Midland, Mich. 48640

MiU
University Library,
University of Michigan,
Ann Arbor, Mich. 48104

MiWarGMR
Research Laboratories Library,
General Motors Corporation,
12 Mile and Mound,
Warren, Mich. 48090

Minnesota

MnM
Science and Technology Department,
Minneapolis Public Library,
300 Nicollet Mall,
Minneapolis, Minn. 55401

MnRM
Mayo Clinic Library,
200 First Street, S. W.,
Rochester, Minn. 55901

MnSJ	James Jerome Hill Reference Library, Fourth Street at Market Street, St. Paul, Minn. 55102
MnU	University of Minnesota Libraries, Minneapolis, Minn. 55455
MnU-A	Agricultural Library, University of Minnesota, St. Paul, Minn. 55101
MnU-B	Bio-Medical Library, University of Minnesota, Diehl Hall, Minneapolis, Minn. 55455

Missouri

MoK	Kansas City Public Library, 311 East 12th Street, Kansas City, Mo. 64106
MoKL	Linda Hall Library, 6109 Cherry Street, Kansas City, Mo. 64110
MoRM	Reference-Interlibrary Loan Department, Library, University of Missouri at Rolla, Rolla, Mo. 65401
MoS	St. Louis Public Library, 1301 Oliver Street, St. Louis, Mo. 63103
MoSU-M	Medical Center Library, Saint Louis University, 1402 South Grand Boulevard, St. Louis, Mo. 63104
MoSW	John M. Olin Library, Washington University, 6600 Millbrook Boulevard, St. Louis, Mo. 63130

MoU
University of Missouri Library,
Columbia, Mo. 65201

Mississippi

MsSM
Mitchell Memorial Library,
Mississippi State University,
P. O. Box 5408,
State College, Miss. 39762

Montana

MtBC
Montana State University Library,
Bozeman, Mont. 59715

MtU
University of Montana Library,
Missoula, Mont. 59801

New York

N
New York State Library,
Albany, N. Y. 12224

NAlU
Interlibrary Loans -- Room 111,
University Library,
State University of New York at Albany,
1400 Washington Avenue,
Albany, N. Y. 12203

NAlfC
Library,
College of Ceramics at Alfred University,
State University of New York,
Alfred, N. Y. 14802

NB
Science and Industry Division,
Brooklyn Public Library,
Grand Army Plaza,
Brooklyn, N. Y. 11238

NBM
Medical Research Library of Brooklyn,
450 Clarkson Avenue,
Brooklyn, N. Y. 11203

NBP
Science Reference Department,
Pratt Institute Library,
Brooklyn, N. Y. 11205

NBPol	Spicer Library, Polytechnic Institute of Brooklyn, 333 Jay Street, Brooklyn, N. Y. 11201
NBiSU-H	Library, State University of New York at Binghamton, Binghamton, N. Y. 13901
NBu	Science and Technology Department, Buffalo and Erie County Public Library, Lafayette Square, Buffalo, N. Y. 14203
NBuA	Specialty Chemical Division Library, Allied Chemical Corporation, P. O. Box 1069, Buffalo, N. Y. 14240
NBuDY	Yerkes Research and Development Laboratory Library, E. I. du Pont de Nemours and Company, Station B, Buffalo, N. Y. 14207
NBuRP	Roswell Park Memorial Institute Library, 666 Elm Street, Buffalo, N. Y. 14203
NBuU-SE	Science & Engineering Libraries, Building 6, State University of New York at Buffalo, Buffalo, N. Y. 14214
NCorniC	Technical Information Center, Corning Glass Works, Sullivan Park, Corning, N. Y. 14830
NGcA	Science Library, Adelphi University, Garden City, N. Y. 11530
NIC	Cornell University Libraries, Ithaca, N. Y. 14850
NN	Science and Technology Division, New York Public Library, New York, N. Y. 10018

NNC
Columbia University Libraries,
535 West 114th Street,
New York, N. Y. 10027

NNCC
Chemists' Club Library,
52 East 41st Street,
New York, N. Y. 10017

NNConE
Library,
Consolidated Edison Company of New York,
Inc.,
4 Irving Place -- Room 1650-S,
New York, N. Y. 10003

NNE
Engineering Societies Library,
345 East 47th Street,
New York, N. Y. 10017

NNNAM
New York Academy of Medicine,
2 East 103rd Street,
New York, N. Y. 10029

NNU
Science Library,
New York University,
Washington Square,
New York, N. Y. 10003

NNU-ES
Engineering and Science Library,
New York University,
University Heights,
The Bronx, N. Y. 10453

NNiaN
Research Library,
National Lead Company -- TAM Division,
Box C, Bridge Station,
Niagara Falls, N. Y. 14305

NOySU
Library,
State University of New York at Stony Brook,
Stony Brook, Long Island,
N. Y. 11790

NRE
Research Library,
Eastman Kodak Company,
Kodak Park Works,
Rochester, N. Y. 14650

NRU Microtext and Duplicating Services,
Rush Rhees Library,
River Campus Station,
Rochester, N. Y. 14627

NRU-M The Edward G. Miner Library,
School of Medicine and Dentistry,
University of Rochester,
260 Crittenden Boulevard,
Rochester, N. Y. 14620

NRenSW Library,
Sterling-Winthrop Research Institute,
Rensselaer, N. Y. 12144

NSchU Schaffer Library,
Union College,
Schenectady, N. Y. 12308

NSyU Syracuse University Library,
Syracuse, N. Y. 13210

NTR Rensselaer Libraries,
Rensselaer Polytechnic Institute,
Troy, N. Y. 12181

NTaGF Technical Center Library,
General Food Corporation,
White Plains, N. Y. 10602

NUpB Research Library,
Brookhaven National Laboratory,
Upton, Long Island,
N. Y. 11973

NYBT Library,
Boyce Thompson Institute for Plant Research,
1086 North Broadway,
Yonkers, N. Y. 10701

Nebraska

NbOC Alumni Memorial Library,
Creighton University,
2500 California Street,
Omaha, Nebr. 68131

NbOC-M	School of Medicine and School of Pharmacy Library, Creighton University, 657 North 27th Street, Omaha, Nebr. 68131
NbU	Love Library, University of Nebraska, Lincoln, Nebr. 68508
NbU-M	College of Medicine Library, University of Nebraska, 42nd and Dewey Avenue, Omaha, Nebr. 68105

North Carolina

NcC	Public Library of Charlotte and Mecklenburg County, 310 North Tryon Street, Charlotte, N. C. 28202
NcD	Duke University Library, Durham, N. C. 27706
NcD-M	Medical Center Library, Duke University, Durham, N. C. 27706
NcRS	D. H. Hill Library, North Carolina State University, Raleigh, N. C. 27606
NcU	University of North Carolina Library, Chapel Hill, N. C. 27515
NcU-H	Health Sciences Library, University of North Carolina, Chapel Hill, N. C. 27504

North Dakota

NdFA	Library, North Dakota State University, Fargo, N. Dak. 58102

NdU Chester Fritz Library,
University of North Dakota,
Grand Forks, N. Dak. 58201

New Hampshire

NhD Baker Memorial Library,
Dartmouth College,
Hanover, N. H. 03755

NhD-D Dana Biomedical Library,
Dartmouth College,
Hanover, N. H. 03755

NhU Dimond Library,
University of New Hampshire,
Durham, N. H. 03824

New Jersey

NjCarpD Carney's Point Development Laboratory Library,
E. I. du Pont de Nemours and Company,
Drawer A,
Carney's Point, N. J. 08069

NjDPA Scientific and Technical Information Branch,
U. S. Army Picatinny Arsenal,
ATTN: SMUPA-VA6,
Dover, N. J. 07801

NjGiD Easton Laboratory Library,
E. I. du Pont de Nemours and Company,
P. O. Box 67,
Gibbstown, N. J. 08027

NjHoS Library,
Stevens Institute of Technology,
Castle Point Station,
Hoboken, N. J. 07030

NjMuA Central Research Library,
Air Reduction Company, Inc.,
Murray Hill, N. J. 07971

NjN Newark Public Library,
Box 630,
Newark, N. J. 07101

NjNC Library,
Newark College of Engineering,
323 High Street,
Newark, N. J. 07102

NjNbSI Science Information Department,
E. R. Squibb and Sons, Inc.,
5 Georges Road,
New Brunswick, N. J. 08903

NjP Princeton University Library,
Princeton, N. J. 08540

NjPTe Textile Research Institute,
P. O. Box 625,
601 Prospect Avenue,
Princeton, N. J. 08540

NjRahM Research Library,
Merck Sharp and Dohme Research Laboratories,
Rahway, N. J. 07065

NjTeaF Serials Library,
Fairleigh Dickinson University Library,
1000 River Road,
Teaneck, N. J. 07666

New Mexico

NmU-M Library of Medical Sciences,
The University of New Mexico Medical School,
900 Stanford N. E.,
Albuquerque, N. Mex. 87106

NmUpU New Mexico State University Library,
Las Cruces, N. Mex. 88001

Nevada

NvLN James R. Dickinson Library,
Nevada Southern University,
Las Vegas, Nev. 89109

NvU University of Nevada Library,
Reno, Nev. 89507

Ohio

OAkF
Research Library,
Firestone Tire and Rubber Company,
1200 Firestone Parkway,
Akron, Ohio 44317

OAkU
The University of Akron Library,
Akron, Ohio 44304

OAvG
Technical Information Center,
B. F. Goodrich Chemical Company,
Development Center,
P. O. Box 122,
Avon Lake, Ohio 44012

OBrG
Charles Cross Goodrich Library,
B. F. Goodrich Company,
Research Center,
Brecksville, Ohio 44141

OC
Science and Industry Department,
Public Library of Cincinnati and Hamilton County,
800 Vine Street,
Cincinnati, Ohio 45202

OCU
University of Cincinnati Library,
Cincinnati, Ohio 45221

OCl
Cleveland Public Library,
325 Superior Avenue,
Cleveland, Ohio 44114

OClCS
Sears Library,
Case Western Reserve University,
10900 Euclid Avenue,
Cleveland, Ohio 44106

OClW
Millis Science Center Library,
Case Western Reserve University,
2074 Adelbert Road,
Cleveland, Ohio 44106

OClW-H
Cleveland Health Sciences Library,
11000 Euclid Avenue,
Cleveland, Ohio 44106

OCoAC American Ceramic Society Library,
4055 North High Street,
Columbus, Ohio 43214

OCoB Library,
Battelle Memorial Institute,
Columbus Laboratories,
505 King Avenue,
Columbus, Ohio 43201

ODaWIT Air Force Institute of Technology Library,
AFIT-L, Building 640, Area B,
Wright-Patterson Air Force Base, Ohio 45433

OO Oberlin College Library,
Oberlin, Ohio 44074

OT Science and Technology Department,
Toledo Public Library, 325 Michigan Street,
Toledo, Ohio 43624

OTU University of Toledo Library,
Toledo, Ohio 43606

OU The Ohio State University Libraries,
1858 Neil Avenue,
Columbus, Ohio 43210

Oklahoma

OkBUSM Library, U. S. Bureau of Mines, Petroleum
Research Center, P. O. Box 1398,
Bartlesville, Okla. 74003

OkS Oklahoma State University Library,
Stillwater, Okla. 74074

OkU University of Oklahoma Library,
Norman, Okla. 73069

Oregon

OrCS William Jasper Kerr Library, Oregon State
University,
Corvallis, Oreg. 97331

OrPR Reed College Library,
3203 S. E. Woodstock,
Portland, Oreg. 97202

OrU Science Library, University of Oregon,
Eugene, Oreg. 97403

OrU-M University of Oregon Medical School Library,
3181 S. W. Sam Jackson Park Road,
Portland, Oreg. 97201

Pennsylvania

PBL Lehigh University Library,
Bethlehem, Pa. 18015

PEL David Bishop Skillman Library,
Lafayette College,
Easton, Pa. 18042

PHuJ Juniata College Library,
Huntingdon, Pa. 16652

PNkA Technical Information Department,
Alcoa Research Laboratories,
P. O. Box 772,
New Kensington, Pa. 15068

PPC Library of the College of Physicians of Philadelphia,
19 South 22nd Street,
Philadelphia, Pa. 19103

PPD Science and Technology Division,
Drexel Institute of Technology Libraries,
32nd and Chestnut Streets,
Philadelphia, Pa. 19104

PPDM Marshall Laboratory Library,
E. I. du Pont de Nemours and Company,
3500 Grays Ferry Avenue,
Philadelphia, Pa. 19146

PPF The Franklin Institute Library,
20th and Parkway,
Philadelphia, Pa. 19103

PPPCPh	Library, Philadelphia College of Pharmacy and Science, 43rd Street, Woodland and Kingsessing Avenues, Philadelphia, Pa. 19104
PPT	Temple University Library, Philadelphia, Pa. 19122
PPWM	Medical Library, Woman's Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, Pa. 19129
PPalZ	Technical Library, The New Jersey Zinc Company, Palmerton, Pa. 18071
PPi	Carnegie Library of Pittsburgh, 4400 Forbes Avenue, Pittsburgh, Pa. 15213
PPiCI	Hunt Library, Carnegie-Mellon University, Schenley Park, Pittsburgh, Pa. 15213
PPiD	Duquesne University Library, Locust and Colbert Streets, Pittsburgh, Pa. 15219
PPiM	Mellon Institute Library, Carnegie-Mellon University, 4400 Fifth Avenue, Pittsburgh, Pa. 15213
PPiU	Chemistry Library, 222 Alumni Hall, University of Pittsburgh, Pittsburgh, Pa. 15213
PPiU-H	Falk Library of the Health Professions, University of Pittsburgh, Pittsburgh, Pa. 15213
PPiUSM	Library, Pittsburgh Research Center, U. S. Bureau of Mines, 4800 Forbes Avenue, Pittsburgh, Pa. 15213

PSt	Pennsylvania State University Library, W 209 Pattee Library, University Park, Pa. 16802
PU	University of Pennsylvania Library, 3420 Walnut Street, Philadelphia, Pa. 19104
PU-Med	Medical Library, School of Medicine, University of Pennsylvania, Hamilton Walk, Philadelphia, Pa. 19104
PWpM	Library Services, Merck Sharp & Dohme Research Laboratories, West Point, Pa. 19486
	Puerto Rico
PrU-M	Medical Sciences Campus Library, University of Puerto Rico, San Juan, Puerto Rico 00905
PrU-NS	Natural Science Library, University of Puerto Rico, Rio Piedras, Puerto Rico 00931
	Rhode Island
RP	Providence Public Library, 150 Empire Street, Providence, R. I. 02903
RPB	Brown University Library, Providence, R. I. 02912
RU	University of Rhode Island Library, Kingston, R. I. 02881
	South Carolina
ScCM	Library, Medical College of South Carolina, 80 Barre Street, Charleston, S. C. 29401

ScCleA	Clemson University Library, Clemson, S. C. 29631
ScU	Science Library, University of South Carolina, Columbia, S. C. 29208

South Dakota

SdB	Lincoln Memorial Library, South Dakota State University, Brookings, S. Dak. 57006
SdRM	Library, South Dakota School of Mines and Technology, Rapid City, S. Dak. 57701
SdU	Director of Libraries, I. D. Weeks Library, University of South Dakota, Vermillion, S. Dak. 57069

Tennessee

TKTVA	TVA Technical Library, 508 Union Avenue, Knoxville, Tenn. 37902
TNJ	Joint University Libraries, Nashville, Tenn. 37203
TU	Library, The University of Tennessee, Knoxville, Tenn. 37916

Texas

TxBeaL	Library, Science-Technology Division, Lamar State College of Technology, Lamar Tech Station Box 10021, Beaumont, Tex. 77705
TxCM	University Library, Texas A and M University, College Station, Tex. 77843

TxDN Library,
North Texas State University,
P. O. Box 5188 N. T. Station,
Denton, Tex. 76203

TxDW Library,
Texas Woman's University,
Box 3715, TWU Station,
Denton, Tex. 76204

TxDaM Science/Engineering Library,
Southern Methodist University,
Dallas, Tex. 75222

TxF Business and Technology Department,
Fort Worth Public Library,
9th and Throckmorton Streets,
Fort Worth, Tex. 76102

TxH Houston Public Library,
500 McKinney Avenue,
Houston, Tex. 77002

TxHMC Houston Academy of Medicine Library for
the Texas Medical Center,
Jesse H. Jones Library Building,
Houston, Tex. 77025

TxHR Rice University Library,
Box 1892,
Houston, Tex. 77001

TxHU University of Houston Libraries,
Cullen Boulevard,
Houston, Tex. 77004

TxLT Library, Texas Technological College,
Box 4079,
Lubbock, Tex. 79409

TxSa Business, Science and Technology Department,
San Antonio Public Library,
210 West Market Street,
San Antonio, Tex. 78205

TxU J. W. Mallet Chemical Library,
University of Texas at Austin,
Austin, Tex. 78712

TxU-M Medical Branch Library,
The University of Texas,
Galveston, Tex. 77550

Utah

ULA The Library,
Utah State University,
Logan, Utah 84321

UPB J. Reuben Clark Library,
Brigham Young University,
Provo, Utah 84601

UU University of Utah Libraries,
Salt Lake City, Utah 84112

Virginia

ViBlbV Carol M. Newman Library,
Virginia Polytechnic Institute,
Blacksburg, Va. 24601

ViLxW Cyrus Hall McCormick Library,
Washington and Lee University,
Lexington, Va. 24450

ViNO Hughes Library,
Old Dominion College,
P. O. Box 6173,
Norfolk, Va. 23508

ViRM Tompkins-McCaw Library,
Medical College of Virginia,
Richmond, Va. 23219

ViRVI Science Library,
Virginia Institute for Scientific Research,
6300 River Road, P. O. Box 8315,
Richmond, Va. 23226

ViU Alderman Library,
University of Virginia,
Charlottesville, Va. 22903

ViU-M Medical Library,
School of Medicine, University of Virginia,
Charlottesville, Va. 22901

Vermont

VtU Guy W. Bailey Library,
University of Vermont,
Burlington, Vt. 05401

VtU-Med Medical Library,
University of Vermont,
Burlington, Vt. 05401

Wisconsin

WAP Library -- Box 1048,
The Institute of Paper Chemistry,
Appleton, Wis. 54911

WM Milwaukee Public Library,
814 W. Wisconsin Avenue,
Milwaukee, Wis. 53233

WU Memorial Library,
University of Wisconsin,
Madison, Wis. 53706

WU-A Agricultural Library,
University of Wisconsin,
Madison, Wis. 53706

WU-E Engineering Library,
University of Wisconsin,
Madison, Wis. 53706

WU-M William S. Meddleton Medical Library,
University of Wisconsin Medical Center,
1305 Linden Drive,
Madison, Wis. 53706

Washington

WaPS Washington State University Library,
Pullman, Wash. 99163

WaPIP The Library,
Pacific Lutheran University,
Tacoma, Wash. 98447

WaS Seattle Public Library,
4th and Madison,
Seattle, Wash. 98104

WaT Business, Science and Technology Department,
Tacoma Public Library,
1102 South Tacoma Avenue,
Tacoma, Wash. 98402

WaU University of Washington Libraries,
Seattle, Wash. 98105

West Virginia

WvU Main Library,
West Virginia University,
Morgantown, W. Va. 26506

WvU-M Medical Center Library,
West Virginia University,
Morgantown, W. Va. 26506

Wyoming

WyU University of Wyoming Library,
Laramie, Wyo. 82070

APPENDIX 19

Serials Listed in ACCESS Without U. S. Library Holdings Including Indication of Status of CAS Library Holdings and Frequency of Occurrence in the Interlibrary Loan File

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
ABH. PREUSS. AKAD. WISS., MATH.-NATURWISS. KL.		X	
ACCION FARM.		X	
ACTA LITT. SCI. REGIAE UNIV. HUNG. FRANCISCO-JOSEPHINAE, SECT. SCI. NATUR.		X	
ADVAN. PHYS. SCI. (USSR)		X	
AEG (ALLG. ELEK.-GES.) - TELEFUNKEN PROGR.	X		
AGRARTUD. EGYET. MEZOGAZD. KARANAK EVK.		X	
AGROKEMIA		X	
AICHI-KEN KOGYO SHIDOSHO HOKOKU	X		
ALLATORV. LAPOK		X	
ALLERGY ABSTR.		X	
ALLEVAMENTI VET.		X	
ALLG. TEXT.-Z. TEXT.-RING		X	
AMA ARCH. SURG.		X	
AMER. BOTTLER		X	
AN. ACAD. NAC. FARM.		X	
AN. COL. NAC. MED. MIL., MEXICO CITY		X	
AN. DIR. GEN. OFIC. QUIM. NAC. (ARGENT.)		X	
AN. FAC. QUIM., UNIV. REPUB. ORIENT. URUG.		X	
AN. INST. RADIO-QUIR. GUIPUZCOA	X		
AN. UNIV. MURCIA	X		
AN. UNIV. PATAGONIA SAN JUAN BOSCO, CIENC. GEOL.	X		
ANN. CHIM. FARM.		X	
ANN. INST. BIOL., TIHANY, HUNG.	X		
ANN. INST. NAT. RECH. AGRON., SER. D		X	
ANN. MED. LEG. CRIMINOL.		X	
ANN. MICROBIOL.		X	
ANN. OFF. NAT. COMBUST. LIQUIDES (FR.)		X	
ANN. PHARM. (POZNAN)	X		
ANN. PHYS. BIOL. MED.		X	
ANN. SOC. BRASS. ENSEIGN. PROF.		X	
ANN. SOC. GEOL. BELG.	X		3
ANN. SOC. PHARM. CHIM. SAO PAULO		X	
ANN. UNIV. LYON, SCI., SECT. A		X	
ANN. UNIV. SARAV., NATURWISS. SCI.		X	
ANN. ZYMOL.		X	
ANNU. REP. PAK. CENT. JUTE COMM.		X	
ANTIBIOT. MED. CLIN. THER. (LONDON)		X	
ANZ. MASCHINENW.		X	
AQEIC (ASOC. QUIM. ESPAN. IND. CUERO), BOL. TEC.	X		
ARB. ANAT. INST. KAISERL.-JAP. UNIV. SENDAI		X	
ARB. BER. SUEDDEUT. VERS. FORSCHUNGSANST. MILCHWIRT.		X	
ARB. DRITTEN ABT. ANAT. INST. KAISERL. UNIV. KYOTO, SER. D		X	
ARB. MED. UNIV. OKAYAMA		X	
ARBEITSSCHUTZ (BERLIN)	X		1

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
ARCH. CHEM. FARM.		X	
ARCH. CHIR. ORTOP. MED.		X	
ARCH. CLIN. INST. ENDOCRINOL., MONTEVIDEO		X	
ARCH. DERMATOL. EXP. FUNCT.		X	
ARCH. ERZBERGBAU, ERZAUFBEREIT., METALLHUETTENW.		X	
ARCH. MED.-CHIR. APP. RESP.		X	
ARCH. OFTALMOL. HISP.-AMER.		X	
ARCH. SCI. PHYS. NATUR.		X	
ARCH. SOC. ZOOL. BOT. FENN. VANAMO		X	
ARGENT., REPUB., SUBSECR. MINERIA, SER. ARGENT.	X		
ARH. MIN. POLJOPR. (YUGOSLAVIA)		X	
ARK. MAT., ASTRON. FYS.		X	
AROMATICS	X		
ARTIF. EARTH SATELL. (USSR)		X	
ARZT, APOTH., KRANKENHAUS		X	
ASAHI GARASU KOGYO GIJUTSU SHOREIKAI KENKYU HOKOKU	X		
ASETETO		X	
ASPHALT STRASSENBAU		X	
ASTM BULL.		X	
ASTRONAUTICS (NEW YORK, 1957-63)		X	
ATOOM		X	
ATTI CLIN. OTO-RINO-LARINGOIATRICA UNIV. PALERMO		X	
ATTI FOND. GIORGIO RONCHI CONTRIB. IST. NAZ. OTTICA	X		1
ATTI MEM. ACCAD. STOR. ARTE SANIT.		X	
ATTI NOTIZ., ASS. ITAL. MET.		X	
ATTUAL. CHEMIOTER.		X	
AUST. J. PHYS., ASTROPHYS. SUPPL.	X		
AUST. RUBBER	X		1
AVTOMAT. KHIM. PROIZVOD. (KIEV)	X		
AVTOMAT. KHIM. PROIZVOD. (MOSCOW)		X	
B'OLAM HADELEK PETROL. WORLD	X		
BANYASZ. KOHASZ. LAPOK		X	
BATHS BATH ENG.		X	
BEIZTECHNIK		X	
BENZOLE DIG.	X		
BER. PETROL.-IND.		X	
BER. TECH.-WISS. ABT. VER. KERAM. GEWERKE DEUT.		X	
BERGBAU WIRT.		X	
BIBL. UNIVERSELLE REV. GENEVE		X	
BIOL. BD. CAN., PROGR. REP. ATL. BIOL. STA., ST. ANDREWS, N. B., ATL. FISH. EXP. STA., HALIFAX, N. S.		X	
BIOL. BD. CAN., PROGR. REP. PAC. BIOL. STA., NANAIMO, B. C., PAC. FISH. EXP. STA., PRINCE RUPERT, B. C.		X	
BIP (BOL. INFORM. PETROL.)		X	
BIUL. INST. NAFT.		X	

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
BIUL. INST. ROSL. LECZ.		X	
BIUL. KOKSOWNIKA	X		
BOL. ASOC. VENEZ. GEOL., MINERIA PETROL.		X	
BOL. ASS. BRASIL. PHARM.		X	
BOL. CUERPO ING. MINAS PERU		X	
BOL. DIR. AGR. GANAD. (PERU)		X	
BOL. FARM. MIL.		X	
BOL. FED. MED. ECUADOR		X	
BOL. INFORM. BROMATOL.		X	
BOL. INFORM. TEC. DEP. METAL. NO FERREOS CONS. SUPER. INVEST. CIENT., SPAIN		X	
BOL. INST. PSIQUIAT., FAC. CIENC. MED. ROSARIO		X	
BOL. INST. SUDAMER. PETROL., MONTEVIDEO		X	
BOL. INST. ZIMOTEC., ESC. SUPER. AGR. LUIZ DE QUEIROZ , UNIV. SAO PAULO		X	
BOL. LIGA CANCER		X	
BOL. OF. COL. QUIM. P. R.		X	
BOL. QUIM. PERU.		X	
BOL. RADIACTIV.		X	
BOL. SOC. ENG. RIO GRANDE DO SUL		X	
BOL., INST. NAC. HIG. ALFONSO XIII		X	
BOLL. INFORM. IND. OLEARIA SAPON.		X	
BOLL. MEM. SOC. TOSCO-UMBRO-EMILIANA MED. INTERNA		X	
BOLL. RIC., REG. SICIL., CENT. SPER. ENOL. F. PAULSEN , MARSALA		X	
BOLL. SOC. NATUR. NAPOLI		X	
BORDEAUX MED.	X		
BRASS. MALT.		X	
BRAU- MALZIND.		X	
BRISTOL MED.-CHIR. J.		X	
BRIT. COLON. DRUG.		X	
BRIT. COMMUN. ELECTRON.		X	
BRIT. J. APPL. PHYS., SUPPL.		X	
BROMATOLOGIA		X	
BULL. ASS. ANCIENS FLEVES INST. SUPER. FERMENT. GAND		X	
BULL. ASS. ANCIENS ETUD. ECOLE SUPER. BRASS. UNIV. LOUVAIN		X	
BULL. ASS. PERMA. CONGR. BELG. ROUTE		X	
BULL. BELGICATOM		X	
BULL. BIO FARMA	X		
BULL. BORIS KIDRIC INST. NUCL. SCI., BIOL.	X		
BULL. BORIS KIDRIC INST. NUCL. SCI., CERAM. MET.	X		
BULL. BORIS KIDRIC INST. NUCL. SCI., ELECTRON.	X		
BULL. BORIS KIDRIC INST. NUCL. SCI., NUCL. ENG.	X		
BULL. BORIS KIDRIC INST. NUCL. SCI., PHYS.	X		
BULL. CEREALES PLANT. FECULE		X	
BULL. CHIN. ASS. ADVAN. SCI.		X	
BULL. CHUNGKING INST. IND. RES.		X	
BULL. GUERRE BIOL. PHARM.		X	

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
BULL. INT. SERV. SANTE ARMEES TERRE, MER AIR		X	
BULL. MADHYA PRADESH AGR. DEP.		X	
BULL. NAT. SOC. MED. RES.		X	
BULL. ORDRE PHARM. (BRUSSELS)		X	
BULL. PROT. VEG.		X	
BULL. SCI. IND. MAISON ROURE-BERTRAND FILS		X	
BULL. SCI., CONS. ACAD. SCI. ARTS RSF YOUGOSLAVIE, SECT. A	X		
BULL. SERV. CARTE GEOL. ALGER., SER.5		X	
BULL. SERV. CARTE GEOL. ALGER., SER. 1		X	
BULL. SERV. CARTE GEOL. ALGER., SER. 2		X	
BULL. SERV. CARTE GEOL. ALGER., SER. 3		X	
BULL. SERV. CARTE GEOL. ALGER., SER. 4		X	
BULL. SERV. CARTE GEOL. ALGER., SER. 6		X	
BULL. SOC. OPHTALMOL. PARIS		X	
BULL. SOC. PHARM. STRASBOURG	X		1
BULL. TECH. AIBR (ASS. ING. SORTIS UNIV. LIBRE BRUXELLES)		X	
BULL. VET. INST. PULAWY	X		
BUSSEI	X		
BUSSEI KENKYU	X		
BUSSEIRON KENKYU		X	
BYULL. KAVKAZ. INST. MINER. SYR'YA	X		
BYULL. NAUCH.-ISSLED. RAB., SREDNEAZIAT. NAUCH.-ISSLED. INST. GEOL. MINER. SYR'YA	X		
BYULL. NAUCH.-TEKH. INFORM. ARM. NAUCH.-ISSLED. INST. ZEMLED.	X		
BYULL. NAUCH.-TEKH. INFORM. GRUZ. NAUCH.-ISSLED. INST. ZHIVOTNOVOD. VET.	X		
BYULL. NAUCH.-TEKH. INFORM. KRASNOYARSK. NAUCH.-ISSLED. INST. SEL. KHOZ.	X		
BYULL. NAUCH.-TEKH. INFORM. NAUCH.-ISSLED. INST. SEL. KHOZ. SEV.-VOST. RAIONOV NECHERNOZEM. POLOSY	X		
BYULL. NAUCH.-TEKH. INFORM. REZUL'T. NAUCH.-ISSLED. RAB., LENINGRAD. LESOTEKH. AKAD.	X		
BYULL. NAUCH.-TEKH. INFORM. SEL'SKOKHOZ. MIKROBIOL.		X	
BYULL. NAUCH.-TEKH. INFORM. UKR. NAUCH.-ISSLED. INST. OGNEUPOROV		X	
BYULL. NAUCH.-TEKH. INFORM. URAL. NAUCH.-ISSLED. INST. CHERN. METAL.	X		
BYULL. NAUCH.-TEKH. INFORM. VSES. INST. NAUCH.-ISSLED. PROEKT. RAB. OGNEUPOR. PROM.	X		
BYULL. NAUCH.-TEKH. INFORM., ARM. NAUCH.-ISSLED. INST. VINOGRAD., VINODEL. PLODOVOD.	X		
BYULL. NAUCH.-TEKH. INFORM., MOLD. NAUCH.-ISSLED. INST. SADOVOD., VINOGRAD., VINODEL.	X		
BYULL. NAUCH.-TEKH. INFORM., TSENT. NAUCH.-ISSLED. INST. OLOVA, SUR'MY RTUTI	X		
BYULL. NAUCH.-TEKH. INFORM., UKR. NAUCH.-ISSLED. INST. METAL.	X		
BYULL. NAUCH.-TEKH. INFORM., UKR. NAUCH.-ISSLED. UGLEKHIM. INST.	X		
BYULL. NAUCH.-TEKH. INFORM., VSES. NAUCH.-ISSLED. INST. OVTSEVOD. KOZOVOD.	X		
BYULL. TEKH. INFORM., GLAVLENINGRADSTROI (LENINGRAD. GOR. GL. UPR. ZHILISHCHNOMU, GRAZHDANSKOMU PROM. STROIT.)	X		
BYULL. TEKH. INFORM., GOS. VSES. INST. PROEKT. NAUCH.-ISSLED. RAB. YUZHGIPROTSEMENT	X		
BYULL. TEKH. INFORM., SOV. NAR. KHOZ. KURSK. EKON. ADMIN. RAIONA	X		
BYULL. TEKH.-EKON. INFORM., SOV. NAR. KHOZ. STALINSKOGO EKON. ADMIN. RAIONA	X		
BYULL. VSES. NAUCH.-ISSLED. INST. CHAI. PROM.	X		
BYULL. VSES. NAUCH.-ISSLED. INST. CHAYA SUBTROP. KUL'T.	X		
CALIF., STATE DEP. PUB. HEALTH, WKLY. BULL.		X	

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
CAN. CEM. CONCR. REV.		X	
CAN. CHEM. EDUC.	X		
CAN. PAINT VARN.		X	
CAN. RES. INST. LAUNDERERS CLEAN., TECH. REP.		X	
CANAPA		X	
CASTINGS	X		1
CEM. ENG. NEWS		X	
CEMENT (WARSAW)		X	
CENT. INST. MATER. ONDERZ., AFD. CORROS., CIRC.		X	
CENT. INST. MATER. ONDERZ., AFD. HOUT, CIRC.		X	
CENT. NAT. RECH. SCI., GROUPE FR. ARGILES, C. R. REUNIONS ETUD.		X	
CERAM. VERRERIE		X	
CESK. KOZARSTVI		X	
CEYLON J. SCI., SECT. B		X	
CHEM. CHRON., EPISTEM. EKDOSIS	X		
CHEM. CHRON., GENIKE EK DOSIS	X		
CHEM. DRUG. EXPORT REV.		X	
CHEM. ENG. J.		X	
CHEM. IND. (TENALI, S. INDIA)		X	
CHEM. IND. N. Z.	X		1
CHEM. STROJIR., STAVITELSTVI PRISTROJOVA TECH.		X	
CHEMIK, WKLADKA (1963-)		X	
CHIANG-HSI CHUNG I YAO		X	
CHIH KUNG YEH		X	
CHING CHI PU LIEN HO KUNG YEH YEN CHIU SO PAO KAO		X	
CHITANIUMU		X	
CHITANIUMU JIRUKONIUMU	X		2
CHOC., CONFISERIE FR.	X		
CHOSEN SOTOKUFU SUISAN SHIKENJO HOKOKU		X	
CHUBU KOGYO DAIGAKU KYO	X		
CHUNG HUA HUA HSUEH KUNG YEH HUI HUI CHIH		X	
CHUNG-HUA CHI SHENG CH'UNG PING CH'UAN JAN PING TSA CHIH		X	
CHUNG-KUO HSU MU HSUEH TSA CHIH		X	
CHUNG-KUO SHENG LI HSUEH TSA CHIH		X	
CHUNG-KUO YAO HSUEH TSA CHIH		X	
CHUNGANG UIHAK	X		
CITRUS		X	
CLIN. NUOVA		X	
COLLOID CHEM.		X	
COM. SPEC. KATANGA, ANN. SERV. MINES SERV. GEOGR. GEOL.		X	
COMMIS. ENERG. AT. FR. , SERV. DOC., SER. BIBLIOGR.	X		
CONTRIB. BIOL. LAB. SCI. SOC. CHINA, ZOOL. SER.		X	
COOPER UNION BULL., ENG. SCI. SER.		X	
COPPER BRASS		X	
CORNUE		X	

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ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
CORR. FARM.	X		
CORROS.-INST. TNO, CIRC.		X	
CRANE VALVE WORLD		X	
CRON. FARM.	X		
CRUSHING-GRINDING-MINING QUARRYING J.		X	
CRYST. FRONT		X	
CSTA (CAN. SOC. TECH. AGR.) REV.		X	
CUIR, ED. TECH.		X	
CULTIV. MOD.		X	
CURR. LAB. PRACT.		X	
CYANAMID INT. MITT.	X		
DAIRYMAN		X	
DEF. AERIENNE		X	
DEP. AGR., STRAITS SETTLEMENTS FED. MALAY STATES, ECON. SER.		X	
DEP. AGR., STRAITS SETTLEMENTS FED. MALAY STATES, GEN. SER.		X	
DEP. AGR., STRAITS SETTLEMENTS FED. MALAY STATES, SCI. SER.		X	
DERMATOL. VENEROL. (SOFIA)	X		
DEUT. ARCH. KLIN. MED.		X	
DEUT. BRAU.		X	
DEUT. DRUCKGEWERBE		X	
DEUT. FORSCHUNGSGEMEINSCH., KOMM. PRUEF. FREMDER STOFFE LEBENSM., MITT.	X		
DEUT. GOLDSCHMIEDE-ZTG.		X	
DEUT. LICHT- WASSERFACH-ZTG.		X	
DEUT. METALLWAREN IND.		X	
DEUT. MUELLEREI		X	
DEUT. NAHRUNGSM.-RUNDSCH.		X	
DEUT. TAB.-ZTG.		X	
DEUT. TOEPFER ZIEGLER ZTG.		X	
DEUT. ZUCKERIND.		X	
DIG. LIT. DIELEC.		X	
DIRECT INFORM. NUKLEARMED.	X		
DIRECT INFORM. STRAHLENSCHUTZ	X		
DIVULG. DENT.		X	
DOC. BIOL. PRACT.		X	
DOKL. BOLG. AKAD. NAUK	X		18
DOKL. SOOBSHCH. UZHGOROD. GOS. UNIV., SER. BIOL.	X		
DOKL. SOOBSHCH. UZHGOROD. GOS. UNIV., SER. FIZ.-MAT. KHIM.	X		
DOKL. SOOBSHCH. UZHGOROD. GOS. UNIV., SER. KHIM.	X		
DOKL., MOSK. SEL'SKOKHOZ. AKAD.	X		
DOM. ENG., HEAT VENT.		X	
DOPOV. POVIDOMLENNYA, L'VIV. DERZH. PEDAGOG. INST., SEKTS. BIOL. KHIM.	X		
DRAEGER REV.	X		
DROG. KOZL.		X	
DRUG CHEM. EXPORTS		X	
DURFERRIT HAUSMITT.	X		

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	YES	NO	
EESTI NSV TEAD. AKAD. TOIM.		X	
EESTI POLLUMAJANDUSE AKAD. TEAD. TOODE KOGUMIK	X		
EISEI KENSA		X	
ELEC. POWER		X	
ELECTRON. DIG.		X	
ELEKTROKHIM. MARGANTSA	X		
ELEKTROPROM. PRIBOROSTR.		X	
ELGIN PAP.		X	
EM D, J. ENG. MATER. COMPON. DES.	X		
ENDOCRINOLOGIA (BUCHAREST)		X	
ENKA BINIIRU TO PORIMA	X		
ENSAYOS INVEST.	X		
ERDOEL, ERDGAS Z.	X		
ERGEB. LABORATORIUMSMED.		X	
ERZMETALL	X		
ESTUD. QUIM., INST. NAC. INVEST. IND. (PORT.)	X		
EUR. J. BIOCHEM.	X		3
FAERBER-ZTG.		X	
FAO FISH. BULL.		X	
FARBEN-ZTG.		X	
FARM. ARGENT.		X	
FARM. BRASIL.		X	
FARM. CHIL.		X	
FARM. FARMAKOL.		X	
FARM. PERU.		X	
FARM. POL.	X		
FARM. QUIM.		X	
FARM. ZH. (KHARKOV)		X	
FARMACIA (BUENOS AIRES)		X	
FARMACISTA	X		
FARMATSIYA (MOSCOW)	X		1
FED. MALAYA, DEP. AGR., ECON. SER.		X	
FED. MALAYA, DEP. AGR., GEN. SER.		X	
FED. MALAYA, DEP. AGR., SCI. SER.		X	
FEED BAG MAG.		X	
FIBRES		X	
FISIOL. MED.		X	
FITOSANITARIAS		X	
FIZ. CHEM.		X	
FLAME NOTES	X		
FLORA SALUTARIS	X		
FLUID DYN. (USSR)		X	
FOA (FOERSVARETS FORSKNINGSANST.) REP.	X		
FORSTWISS. CENTRALBL.		X	
FORTSCHR. ARZNEIMITTELFORSCH.	X		

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	YES	NO	
FR. PHARM.	X		
FVOE, FACHZ. OELFEUERUNG, GASFEUERUNG ENERGIEWIRT.		X	
G. CHIM. APPL.		X	
G. CHIM. IND.		X	
G. CHIM. IND. APPL.		X	
G. ITAL. TUBERC.		X	
G. OSTET. GINECOL.		X	
GALVANOTECHNIEK	X		4
GAMMA		X	
GANNON COLL. CHEM. J.		X	
GAS RES. BD., COMMUN.		X	
GAS REV.		X	
GASSCHUTZ LUFTSCHUTZ		X	
GAZ COMBAT		X	
GAZ WODA		X	
GDANSK. TOW. NAUK., ROZPR. WYDZ. 3	X		
GEC (GEN. ELEC. CO. LTD. ENGL.)-AEI (ASS. ELEC. IND. LTD.) J. SCI. TECHNOL.	X		
GEODERMA	X		
GEOFIZ. ISSLED.		X	
GEOFIZ. PRIBOROSTR.		X	
GEOL. POLEZ. ISKOP. ZAPAD. KAZ.		X	
GEOL. SURV. WEST MALAYSIA, DIST. MEM.		X	
GEOL., METOD. TEKH. RAZVED., LAB. RAB.		X	
GEWERKSCH. RUNDSCH.		X	
GIETERIJ		X	
GOD. DURZH. POLITEKH., SOFIYA		X	
GOD. NAUCHNOIZSLED. INST. KHIM. PROM.	X		
GOD. NAUCHNOIZSLED. INST. TSVET. MET., PLOVDIV	X		
GORN. MASH. AVTOMAT.	X		
GORYUCH. SLANTSY	X		
GOUDRON ROUTES	X		
GT. BRIT., ROY. AIRCR. ESTAB., TECH. REP.	X		
GUERTLER, BIJOUT.- METALLWAREN-IND.		X	
GUMMI-ZTG.		X	
GUMMI-ZTG. KAUT.		X	
GUNZE SEISHI KABUSHIKI KAISHA KENKYUSHO, KENKYU-IHO		X	
GYOGYSZERESZTUD. ERT.	X		
HAEMATOLOGIA	X		
HAERTEREI-TECH. WAERMEBEHANDL.		X	
HERMSDORFER TECH. MITT.	X		
HIROSHIMA DAIGAKU SEIBUTSU GAKKAISHI		X	
HITACHI HYORON		X	
HOKUSUISHI GEPPO	X		
HOLZ SPERRHOLZ		X	
HOSHASEN IGAKU SEIBUTSUGAKU	X		

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ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
HOSP. CENT. MIL., LOMAS DE SOTELO, MEX., PUBL. TRIM.		X	
HOUTINST. TNO, CIRC.		X	
HUA HSUEH KUNG YEH (SHANGHAI)		X	
HUANG HAI		X	
HUM. HERED.	X		
HYG. SANIT. (USSR)		X	
HYOGO NOKA DAIGAKU KIYO	X		
HYOYAKUKAI		X	
ILL., UNIV., ENG. EXP. STA., REPRINT SER.		X	
IMAGE TECHNOL.		X	
IMF (INST. METAL FINISH.) SYMP. PUBL.	X		2
IMP. ZOOTECH. EXP. STA., BULL.		X	
IND. ALIMENT. (MEXICO CITY)	X		
IND. CHIM. (PARIS)	X		5
IND. SAPON. OLII, STEARIN., PROFUM.		X	
INDIAN EAST. MOT.		X	
INFORM. BYULL. MOSK. NAUCH.-ISSLED. INST. SANIT. GIG.	X		
INFORM. BYULL., VSES. INST. PROEKT. ORGAN. ENERG. STROIT.	X		
ING. ITAL.		X	
INGENIOERVIDENSK. SKR.		X	
INST. EXP. INVEST. FOM. AGR.-GANAD., SANTA FE, PUBL. TEC.		X	
INST. SPACE AERONAUT. SCI., UNIV. TOKYO, REP.		X	
INSTRUM. NEWS	X		
INSTRUM. REV. (LEIDEN))		X	
INT. J. QUANTUM CHEM., SYMP.	X		
INVENT. INOVATII		X	
ION (BUCARAMANGA, COLOMB.)	X		
IRE TRANS. RADIO FREQ. INTERFERENCE		X	
IRON FOUNDRY		X	
ISR., GEOL. SURV., BULL.		X	
ISSLED. PROTSESSOV ADSORBTSIONNOI KATAL. OCHISTKI NEFTEPROD. PRISUTSTVII PROISTYKH TEL	X		
ISTANBUL SERIRIYATI		X	
IWATE DAIGAKU KYOIKUGAKUBU KENKYU NEMPO		X	
IYO KIZAI KENKYUSHO HOKOKU, TOKYO IKA SHIKA DAIGAKU	X		
IZMER. TEKH. POVEROCHNOE DELO		X	
IZOL. ELEK. MASH.	X		
IZV. AKAD. NAUK		X	
IZV. AKAD. NAUK ARM. SSR, ESTESTV. NAUKI		X	
IZV. AKAD. NAUK ARM. SSR, FIZ.-MAT., ESTESTV. TEKH. NAUKI	X		
IZV. AKAD. NAUK ARM. SSR, MED. NAUKI		X	
IZV. AKAD. NAUK BELORUSS. SSR		X	
IZV. AKAD. NAUK SSSR	X		15
IZV. ARM. FILIALA AKAD. NAUK SSSR		X	
IZV. ARM. FILIALA AKAD. NAUK SSSR, ESTESTV. NAUKI		X	
IZV. ESTESTVENNONAUCH. INST. PERM. GOS. UNIV.	X		

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IZV. IMP. AKAD. NAUK		X	
IZV. INST. GORATA, AKAD. SELSKOSTOP. NAUKI BULG.		X	
IZV. INST. KHIDROL. METEOROL., BULG. AKAD. NAUK.	X		
IZV. INST. KHIM. SREDSTVA SEL. STOP., AKAD. SELSKOSTOP. NAUKI BULG.	X		
IZV. KUIBYSHEV. SEL'SKOKHOZ. INST.	X		
IZV. OTD. KHIM. NAUKI, BULG. AKAD. NAUK.	X		
IZV. TOMSK. IND. INST.		X	
IZV. TSENT. NAUCH.-ISSLED. INST. KOZH. PROM.		X	
IZV. VETERINARNOKHIG. INST. ZHIVOTIN. PROD., AKAD. SELSKOSTOP. NAUKI BULG.		X	
IZV. VYSSH. UCHEB. ZAVED., RADIOELEKTRON.		X	
J. AMER. ANALG. SOC.		X	
J. CHOSEN MED. ASS.		X	
J. CHROMATOGR. SCI.	X		
J. CLIN. MED.		X	
J. DEP. AGR., WEST. AUST.		X	
J. ELECTROCHEM. SOC. JAP.	X		23
J. FAC. MED. CHULALONGKORN UNIV., BANGKOK	X		
J. FARM.		X	
J. IMP. COLL. CHEM. SOC.		X	
J. INC. CLERKS WORKS ASS. GT. BRIT.		X	
J. INDIA SOC. ENG.		X	
J. INDIAN PEDIAT. SOC.		X	
J. INST. ENGL., CALCUTTA		X	
J. INST. PETROL., ABSTR.		X	
J. KOREAN CANCER RES. ASS.	X		
J. LEEDS UNIV. TEXT. STUD. ASS.		X	
J. LIBR. AUTOMAT.	X		
J. MADRAS AGR. STUD. UNION		X	
J. MINERAL.		X	
J. MO. WATER SEWERAGE CONF.	X		
J. NUCL. ENERGY	X		4
J. NUCL. ENERGY, PART A		X	
J. NUCL. ENERGY, PART B		X	
J. NUCL. ENERGY, PARTS A/B		X	
J. OSMANIA UNIV.		X	
J. PATHOL.	X		1
J. PERIODONTOL.-PERIODONTICS	X		
J. PHOTOMICROGR. SOC.		X	
J. ROY. SOC. ENCOUR. ARTS, MFR. COMMER.		X	
J. SCI. ASS., MAHARAJAH'S COLL.		X	
J. SCI. FOOD AGR., ABSTR.		X	
J. SCI. IND. RES., SECT. A	X		4
J. SCI. IND. RES., SECT. B	X		11
J. SCI. IND. RES., SECT. C	X		
J. SCI. IND. RES., SECT. D		X	

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J. SCI. INSTRUM. PHYS. IND.		X	
J. SCI. RES. INDONES.		X	
J. SHANGHAI SCI. INST., SECT. 5		X	
J. UNIV. SAUGAR, PART 2 SECT. A		X	
JAHRB. OBEROESTERR. MUSEALVER.		X	
JAHRESBER. FORTSCHR. PHYSIOL.		X	
JAST (JAM. ASS. SUGAR TECHNOL.) QUART.		X	
KABEL. TEKH.	X		
KACHIKU HOKEN EISEI GIJUTSU KENKYUKAI-HO		X	
KAELTETECH. ANZ.		X	
KAGAKU KENKYUSHO HOKOKU		X	
KAGAKU KOJO	X		
KAGAKU NO JIKKEN	X		
KAGAKU SOCHI	X		
KAGOSHIMA DAIGAKU HARU KENKYUKAI HOKOKUSHU		X	
KANAZAWA DAIGAKU GAN KENKYUSHO NEMPO	X		
KANAZAWA DAIGAKU YAKUGAKURU KENKYU NEMPO		X	
KARDIOL. POL. (TOW. INTERNISTOW POL., SEKCJA KARDIOL.)		X	
KEKKAKU KENKYU NO SHIMPO		X	
KERAM. SB.		X	
KHIM. GEOGR. GIDROGEOKHIM.	X		
KHIM. KHIM. TEKHNOL. (ALMA-ATA)	X		
KHIM. PERERAB. DREV.	X		
KIM. ANN.		X	
KINKI DAIGAKU YAKUGAKUBU KIYO	X		
KISERLETUGYI KOSLEM.	X		
KIYO, TOKYO SHASHIN TANKI DAIGAKU	X		
KJEMI	X		
KLEI		X	
KLEI KERAM.	X		
KLIN. EKSP. MED.	X		
KOGYO KAYAKU		X	
KOGYO REAMETARU	X		
KOHLENSAEURE MINERALWASSER		X	
KONSERV. PROM.		X	
KONST. SVOISTVA MINER.	X		
KONZERVIPAR		X	
KOPALNICTWO NAFT. POL.		X	
KOTAI BUTSURI	X		
KOZP. ELELMISZERIPARI KUTATOINTEZ. KOZLEM.		X	
KUIBYSHEV. NEFT	X		
KUNSTST.-BERAT.		X	
KUNSTST.-PLAST. (MUNICH)	X		
KUNSTSTOFFMARKT		X	
KUNSTSTOFFTECHNIK	X		

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KUO-LI PEIPING YEN CHIU YUAN YUAN WU HUI PAO		X	
KURORTOL. FIZIOTER.		X	
KYOTO DAIGAKU KOGAKU KENKYUSHO NENPO		X	
KYUSHU DAIGAKU KOGAKU SHUHO	X		
KYUSHU YAKUGAKKAI KAIHO		X	
LAB PRACTICE.	X		
LABOR HYG. OCCUP. DIS. (USSR)		X	
LABORATORIO (MILAN)	X		
LABORATORIUM	X		
LAIT. IND. FERME		X	
[illegible] LIS		X	
LATV. PSR ZINAT. AKAD. VESTIS, FIZ. TEH. ZINAT. SER.	X		
LATV. PSR ZINAT. AKAD., KIM. INST. ZINAT. RAKSTI	X		
LAUNDRY DRY CLEANING J. CAN.		X	
LAUNDRY-LAUNDRIES-BLANCHISSERIES		X	
LECH. KURORTNAYA ZONAISKAL'YA	X		
LEGK. PISHCH. PROM. PODMOSKOV'YA	X		
LEGK. PROM. (KIEV)	X		
LEGK. PROM. KAZ.	X		
LEICHTMETALL (SIEGEN, GER.)		X	
LES. SYR'EVYE RESUR. IRKUTSK. OBL.	X		
LESINDUSTRIEN		X	
LIN CH'UANG CHIEN YEN TSA CHIH		X	
LIPID CHEM.		X	
LIT. REV. OILS FATS		X	
LONG ASHTON RES. HORT. RES. STA., UNIV. BRISTOL , ANNU. REP.	X		
LOUGHBOROUGH UNIV. TECHNOL., CHEM. ENG. SOC., J.		X	
LOUISIANA AGR.	X		
LUFTTECHNIK		X	
M D [illegible] PHARM. BULL.	X		
MAANDBL. LANDBOUWVOORLICHTINGSDIENST (NETH.)		X	
MAGY. KOZLEKED., MELY- VIZEPITES		X	
MAGY. MEZOG.- EPITESZ-FOLYET KOZL.		X	
MALAYA, GEOL. SURV. DEP., REP.		X	
MASLO-SAPUNENA PROM.		X	
MATER. GEOL. POLEZ. ISKOP. BURYAT. ASSR	X		
MATER. GEOL. POLEZ. ISKOP. IRKUTSK. OBL.	X		
MATER. ISSLED. POMOSHCH PROEKT. STROIT. KARAKUMSKOGO KANALA	X		
MATER. IZUCH. STAVROPOL. KRAYA	X		
MATER. IZUCH. ZHEN'SHENYA DRUGIKH LEK. SREDSTV DAL'NEGO VOSTOKA	X		
MATER. MINERAL., PETROGR. POLEZ. ISKOP. ZAPAD. SIB. KRASNOYARSK. KRAYA	X		
MATER. OBMENU PEREDOVYM OPYTOM NAUCH. DOSTIZH. KHIM.-FARM. PROM.	X		
MATER. TSENT. NAUCH.-ISSLED. INST. BUM. PROM.		X	
MATER. VOP. PROM. TOKSIKOL. KLIN. PROF. BOLEZ.	X		
MATER. VSES. NAUCH.-ISSLED. INST. BUM. TSELLYUL. PROM.		X	

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MED. [illegible]		X	
MED. [illegible]		X	
MED. PRESS EGYPT		X	
MED. [illegible]	X		
MEDED. [illegible] GEOL.-MINERAL. INST.		X	
MEDED. ALG. PROEFSTA. AVROS (ALG. VER. RUBBERPLANT. OOSTKUST SUMATRA)		X	
MEDED. INST. MOD. VEEVOEDING DE SCHOTHORST HOOGLAND AMERSFOORST		X	
MEDED. INST. RATION. SUIKERPROD.	X		
MEDED. LAB. SCHEIK. ONDERZ. TE BUITENZORG		X	
MEDED. LEDERINST. TNO	X		
MEDED. [illegible]	X		
[illegible] MED. PHARM. MITT. WISS. PRAX., SUPPL.	X		
MEM. [illegible] SCI. INST. [illegible]		X	
MEM. ASIAT. SOC. BENGAL		X	
MEM. COLL. SCI., UNIV. KYOTO, SER. A MATH.		X	
MEM. FAC. ENG., HOKKAIDO IMP. UNIV.	X		
MEM. [illegible] RES., [illegible] AGRIC. JAP.		X	
MEM. ROY. ASIAT. SOC. BENGAL		X	
METAL TREAT.		X	
METAL TREAT. DROP FORG.		X	
METAL. BULL.		X	
METALL. [illegible] APPL.		X	
METALL. [illegible]		X	
METALLOVED. TERM. OBRAB.	X		
METALLOVEDENIE	X		
[illegible]		X	
METODY ANAL. VESHCHESTV OSOBOI CHIST. MONOKRIST.	X		
[illegible] NATUR. RENDV. [illegible]	X		
[illegible]		X	
MILK TRADE GAZ.		X	
[illegible]		X	
MINN. DEP. AGR., ANNU. FEED BULL.		X	
MINN. UNIV., ENG. EXP. STA., TECH. PAP.		X	
[illegible] JOUR SCI	X		
MITT. [illegible] LIKOERFABR. INST. GAERUNGSGEWERBE BERLIN		X	
MITT. BAYER. LANDESANST. TIERZUCHT GRUB MUENCHEN		X	
MITT. CHEM. FORSCHUNGSINST. WIRT. OESTERR.		X	
MITT. DEUT. PHARM. GES. PHARM. GES. DDR	X		
MITT. FORSCHUNGSINST. VER. STAHLWERKE AG. DORTMUND		X	
MITT. LAB. GEOL. DIENSTES (DEUT. DEMOKRAT. REPUB.)		X	
MITT. OESTERR. SANITAETSVERWALT.		X	
MITT. SCHWEIZ. APOTH.-VER.		X	
MOD. MILLER		X	
[illegible]	X		5
[illegible] INT. ALTERSFORSCH. ALTERSBEKAEMPF.		X	

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
[illegible]		X	
[illegible]		X	
[illegible]	X		
[illegible]		X	
[illegible]		X	
[illegible]	X		
[illegible]		X	
[illegible] APPL. CHEM., REP.		X	
[illegible] SPEC. PUBL.	X		
[illegible] RES. LAB., CIRC.		X	
[illegible]		X	
[illegible] INST.	X		
[illegible] INST.	X		
[illegible] FILIAL GOS. VSES. NAUCH.-ISSLED. INST. TSEM. PROM.	X		
[illegible] NAUCH.-ISSLED. INST. BEZOP. RAB. GORN. PROM.	X		
[illegible] IZSLED.		X	
[illegible] SEL'SKOKHOZ. INST.	X		
[illegible] VETERINARNOKHIG. INST. ZHIVOTIN. PROD., BULG. AKAD. NAUK.		X	
[illegible] PEDAGOG. INST., PLOVDIV, MAT., FIZ., KHIM., BIOL.	X		
[illegible] NAUCH.-ISSLED. INST. REDK. METAL.	X		
[illegible] NAUCH.-ISSLED. INST. REDK. TSVET. METAL.	X		
[illegible] GORNOMET. INST., YEREVAN	X		
[illegible] INST. KONSERV. PROM., PLOVDIV	X		
[illegible] INST. VINAR. PIVOVAR. PROM., SOFIA	X		
[illegible] POLITEKH. INST.	X		
[illegible] SEL'SKOKHOZ. INST.	X		
[illegible] NAUCH.-ISSLED. INST. TSELLYUL. BUM. PROM.	X		
[illegible] NAUCH.-ISSLED. INST. GIG. TR. PROFZABOL.	X		
[illegible] INST., SOFIA, SER. GORSKO STOP.	X		
[illegible] INST., SOFIA, SER. MEKH. TEKHNOL. DURV.	X		
[illegible] INST., SOFIA, AGRON. FAK., SER. GRADINAR., LOZAR. RAST. ZASHT.	X		
[illegible] INST., SOFIA, AGRON. FAK., SER. RASTENIEVUD.	X		
[illegible] INST., SOFIA, AGRON. FAK., SER. OBSHTO ZEMED.	X		
[illegible] SEL'SKOKHOZ. INST.	X		
[illegible] INST. SOV. TORG.		X	
[illegible] EKON. INST.	X		
[illegible] SEL'SKOKHOZ. INST.		X	
[illegible] GOS. UNIV.	X		
[illegible] GOS. MED. INST.	X		
[illegible] SEL'SKOKHOZ. INST.	X		
[illegible] INST.	X		
[illegible] NAUCH.-ISSLED. INST. STEKLYANNOGO VOLOKNA	X		
[illegible] NAUCH.-ISSLED. INST. MEKH. RYB. PROM.	X		
[illegible] NAUCH.-ISSLED. INST. TEPLOENERG. PRIBOROSTR.	X		
[illegible] SER. 3	X		

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS
OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
NAUCH.-TEKH. INFORM., TSENT. INST. NAUCH.-TEKH. INFORM. BUM. DEREVOOBRAB. PROM., TSELLYUL.-BUM., GIDROLIZ. LESOKHIM. PROM.	X		
NAUK. PR., L'VIV. ZOOVET. INST.	X		
NAUK. PR., SUMS'KA DERZH. SIL'S'KOGOSPOD. DOSLID. STA.	X		
NAUK. ZAP., KRIVORIZ. DERZH. PEDAGOG. INST.	X		
NAUK. ZAP., SUMS'KOGO DERZH. PEDAGOG. INST.	X		
NAUK. ZAP. UKR. BIOKHIM. INST.		X	
NAUK. ZAP., L'VIV. DERZH. UNIV., SER. FIZ.-MAT.	X		
NAUK. ZAP., L'VIV. DERZH. UNIV., SER. GEOL.		X	
NAUK. ZAP., NIZHIN. DERZH. PEDAGOG. INST.		X	
NED. MELK-ZUIVELTIJDSCHR.	X		2
NED. RUBBERIND.	X		
NED. SCHEEPSSTUDIECENT. TNO, REP.	X		
NENRYO KENKYUSHO GIJUTSUSHIRYO		X	
NENRYO KENKYUSHO HOKOKU		X	
NETH. J. ZOOL.	X		
NEUE ARZNEIM., SPEZ.		X	
NHK (NIPPON HOSO KYOKAI) TECH. MONOGR.	X		
NI SHE YEN CHIU		X	
[illegible]		X	
NIPPON DAICHO KOMONBYO GAKKAI ZASSHI		X	
NIPPON EISEIKENSA GISHIKAI ZASSHI	X		
NIPPON SEMBAI KOSHA HATANO TABAKO SHIKENJO TOKUBETSU HOKOKU		X	
NIPPON SHIKA ZAIRYO KIKAI GAKKAI ZASSHI		X	
[illegible] KAI HO		X	
NONGSA SIHOM YON'GU POGO	X		
[illegible] NED. [illegible], AFD. 2		X	
NORDDEUT. FARBEN-ZTG.		X	
NORINSHO SUISAN KOSHUSHO KENKYU HOKOKU		X	
NOTIZ. CHIM.-IND.		X	
NOTIZ. ENOL. ALIMENT.		X	
NOUV. ARCH. HOSP.		X	
NOVOSTI MED.		X	
NOVOSTI NEFT. GAZOV. TEKH., GAZOV. DELO	X		
NOVOSTI NEFT. GAZOV. TEKH., GEOL.	X		
NOVOSTI NEFT. GAZOV. TEKH., NEFT. OBORUDOVANIE SREDSTVA AVTOMAT.	X		
NOVOSTI NEFT. GAZOV. TEKH., NEFTEPROM. DELO	X		
NOVOSTI NEFT. GAZOV. TEKH., TRANSP. KHRANENIE NEF:I NEFT¿PROD.	X		
NOVOSTI NEFT. TEKH., STROIT. MONTAZH	X		
NOVOSTI PISHCH. PROM.	X		
NOYAKU SEISAN GIJUTSU		X	
NU (NATL. UNIV.) SCI.		X	
NUOVI ANN. AGR.		X	
OBERFLAECHENTECHNIK		X	
OBSHCH. MASHINOSTR.		X	

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS		INTERLIBRARY LOAN REQUESTS
	YES	NO	
OCHERKI GEOL. SOV. KARPAT	X		
OESTERR. AKAD. WISS., MATH.-NATURWISS. KL., SITZUNGSBER., ABT. 2B	X		
OESTERR. KUNSTST.-RUNDSCH.		X	
OFFICINA		X	
OHIO REP.		X	
OIL BULL.		X	
OIL NEWS		X	
OLI, GRASSI, DERIV.	X		
OLIVICULTURE		X	
OLIVICOLTURA		X	
ONKOLOGIYA		X	
ONODA KENKYU IHO		X	
OPHTHALMOL., WAR YEARS		X	
OPTIK (WEIMAR)		X	
ORDNANCE		X	
ORVOSTUDOMANY	X		
OSAKA DAIGAKU SHIGAKU ZASSHI		X	
OSAKA FURITSU KOGYO-SHOREIKAN HOKOKU	X		
OYO DENKI KENKYUSHO HOKOKU	X		
OYO YAKURI	X		
P. R. SUGAR MANUAL		X	
PAC. CHEM. MET. IND.		X	
PAINT COLOUR REC.		X	
PAINT MFR.	X		18
PAK. ACAD. SCI., MEM.		X	
PAK. ACAD. SCI., TRANS.		X	
PAP., PULP & PAINTS	X		8
PAP.-Z.		X	
PAPER		X	
PEDIAT. ESPAN.		X	
PEDIAT. MED.	X		
PETROL. HYDROCARBONS	X		
PETROLEUM (CHICAGO)		X	
PFLANZENBAU		X	
PFLANZENBAU, PFLANZENSCHUTZ, PFLANZENZUCHT		X	
PFLUEGERS ARCH.	X		23
PHARM. MONATSH.		X	
PHOTO		X	
PHYS. TECH. BIOL. RES.	X		
PHYS. Z.		X	
PHYTOPROTECTION	X		
PISMA ZH. EKSP. TEOR. FIZ.	X		
PLANT. MED. PHYTOTHER.	X		
PLAST. PROGR. INDIA		X	
PLASTEC (PLAST. TECH. EVAL. CENT.), REP.	X		

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
[illegible]		X	
[illegible]		X	
[illegible] TECH.		X	
[illegible] INFANT.		X	
[illegible] ANNU. REP.		X	
[illegible]		X	
[illegible] GAZ. GLASS TRADE REV.		X	
[illegible] BULL.		X	
PR. [illegible] SLEVARENSKEHO		X	
PR. [illegible] NATUR.		X	
PR. [illegible]		X	
PR. [illegible] LODZ		X	
[illegible]		X	
[illegible]		X	
[illegible] PFLANZENSCHUTZ		X	
[illegible] BL.		X	
[illegible]		X	
[illegible] VED BRNE		X	
[illegible]	X		
[illegible]		X	
[illegible] PAC. COAST FERT. SOC.		X	
[illegible] FERT. CONF.		X	
PROC. [illegible] PA.		X	
PROC. [illegible] WASTE CONF.		X	
PROC. [illegible] RES.		X	
PROC. [illegible] WASTE CONTR.		X	
PROC. [illegible] GAS PROCESS. OIL REFINERS ASS.		X	
[illegible]		X	
[illegible] TESS.		X	
[illegible]		X	
[illegible] WODY	X		
[illegible] TRUB	X		
[illegible]		X	
[illegible] IVANOV. EKON. ADMIN. RAIONA		X	
[illegible] PROC. COLLOQ.		X	
[illegible]		X	
[illegible] SZKLA		X	
[illegible] NAFTY		X	
[illegible]		X	
[illegible] CONS. NAZ. RIC.		X	
[illegible] COLON., PARIS		X	
[illegible] ROCASOLANO		X	
[illegible] (ITALY)		X	
[illegible] EDISON ELET.		X	
[illegible] UNIV. MED. SCH.			

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
QUART. REV. AMER. ELECTROPLATERS' SOC.		X	
RADIOBIOL. BIOL. MOL.	X		
RADIOTER., RADIOBIOL. FIS. MED.		X	
RASCHET KONSTRUIROVANIE NEFTEZAVOD. OBORUDOVANIYA	X		
RASS. CHIMICA (ASS. ITAL. TEC., TECHNOL. PROF. IND. OLI GRASSI ALIMENT.)		X	
RASS. ECON. AFR. ITAL.		X	
RASS. ECON. COLON.		X	
RASS. MED. SPER., SUPPL.	X		
RAYON WORLD		X	
RCN (REACTOR CENT. NED.) REP.	X		
REAL ACAD. FARM. BARCELONA, SES. INAUG.	X		
REC. CONF. TRAV. INFORM. DIFFUSE CENT. NAT. RECH. MET., SECT. HAINAUT		X	
REGIA STA. CHIM.-AGR. SPER. ROMA, PUBBL.		X	
REICHSGESUNDHEITSBLATT		X	
REM. CORPS AMES	X		
REM.-ACTUAL.		X	
REND., IST. SANITA PUBB.		X	
RES. BULL., PN (PERUSAHAAN NEGARA) BIO FARMA		X	
RES. REP. FAC. ENG., NAGOYA UNIV.		X	
REV. ASOC. TECNOL. MED. MICROSC. P. R.		X	
REV. ASS. BRASIL. FARM.		X	
REV. CENT. ESTUD. FARM. BIOQUIM.		X	
REV. CHIL. NEURO-PSIQUIAT.	X		
REV. CHIM., ACAD. REPUB. POP. ROUM.		X	
REV. COL. FARM. NAC.		X	
REV. FAC. FARM. ODONTOL. ARARAQUARA	X		
REV. FARM. QUIM.		X	
REV. FILIPINA MED. FARM.		X	
REV. FINAN., BURSATIL MINERA		X	
REV. FR. TRANSFUS.	X		
REV. HIG. MED. ESC.		X	
REV. ING. (BUENOS AIRES)		X	
REV. INT. BRASS. MALT.		X	
REV. INT. FALS. ANAL. MATIERES ALIMENT.		X	
REV. INT. PHARM.		X	
REV. INT. SOJA		X	
REV. MARQUES-PARFUMS FR.		X	
REV. MED. (PARIS)		X	
REV. MED. NORMANDES	X		
REV. NEUROL. CLIN., MADRID		X	
REV. POLAROGR.	X		
REV. PSIQUIAT.		X	
REV. QUIM. PURA APL.		X	
RIV. CULT. MAR.		X	
RIV. ITAL. ESSENZE, PROFUMI, PIANTE OFFIC., OLII VEG., SAPONI		X	

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
RIV. NEUROPSICHIAT. SCI. AFFINI		X	
ROAD RES. LAB. (U. K.), RRL-REP.	X		
RODO EISEI KENKYUJO KENKYU HOKOKU		X	
RODO KAGAKU KIHO		X	
[illegible]	X		
RYB. PROM. DAL'NEGO VOSTOKA	X		
RYUKYU DAIGAKU NOGAKUBU GAKUJUTSU HOKOKU		X	
S. AFR. CORROS. J.	X		
S. C., AGR. EXP. STA., BULL.	X		
SAIKIN KOKUSO SHIMPOJIUMU		X	
SAIKYO DAIGAKU GAKUJUTSU HOKOKU, RIGAKU OYOBI KASEIGAKU		X	
SALUD		X	
SANIT. OKHR. VODOEMOV ZAGRYAZNENIYA PROM. STOCHNYMI VODAMI	X		
SANUP KWA KISUL	X		
SANSHIGAKU ZASSHI		X	
SB. DOKL. NAUCH. STUD. OBSHCHEST., KALININ. GOS. PEDAGOG. INST.	X		
SB. MATER. NAUCH.-TEKH. SOV. GLUBOKOMU BUREN., MOSK. INST. NEFTEKHIM. GAZOV. PROM.	X		
SB. NAUCH. RAB. ASPIR. VORONEZH. GOS. UNIV.	X		
SB. NAUCH. RAB. KIRG. NAUCH.-ISSLED. INST. OKHR. OKHR. MATERIN. DETSTVA	X		
SB. NAUCH. RAB. NAUCH.-ISSLED. INST. STROIT. MATER., MINSK	X		
SB. NAUCH. RAB. STUD. IVANOV. GOS. MED. INST.	X		
SB. NAUCH. RAB. STUD., SARATOV. ZOOTEKH.-VET. INST.	X		
SB. NAUCH. RAB. ZAPOROZH. GOS. INST. USOVERSH. VRACHEI	X		
SB. NAUCH. RAB., IRKUTSK. GOS. MED. INST.	X		
SB. NAUCH. RAB., KURGAN. GOS. SEL'SKOKHOZ. INST.	X		
SB. NAUCH. RAB., L'VOV. GOS. MED. INST.		X	
SB. NAUCH. RAB., LENINGRAD. NAUCH.-ISSLED. INST. ANTIBIOT.	X		
SB. NAUCH. RAB., MINSK. GOS. MED. INST.	X		
SB. NAUCH. RAB., MOSK. GORN. INST., KAFEDRA KHIM.		X	
SB. NAUCH. RAB., NAUCH.-ISSLED. SEKT., KIEV. GOS. UNIV.	X		
SB. NAUCH. RAB., PENZ. INZH.-STROIT. INST.	X		
SB. NAUCH. RAB., VOLGOGRAD. PEDAGOG. INST.	X		
SB. NAUCH. RAB., ZAOCH. INST. SOV. TORG.	X		
SB. NAUCH. STATEI, GOS. MAKEEVSKII NAUCH.-ISSLED. INST. BEZOP. RAB. GORN. PROM.	X		
SB. NAUCH. STUD. RAB., OMSK. GOS. PEDAGOG. INST.	X		
SB. NAUCH. TR. VINNITS. GOS. MED. INST.	X		
SB. NAUCH. TR., CHIT. GOS. MED. INST.	X		
SB. NAUCH. TR., DAGESTAN. GOS. MED. INST.	X		
SB. NAUCH. TR., GOS. NAUCH.-ISSLED. INST. KERAMZITU	X		
SB. NAUCH. TR., GOS. NAUCH.-ISSLED. PROEKT. INST. MET. PROM	X		
SB. NAUCH. TR., IRKUTSK. GOS. NAUCH.-ISSLED. INST. REDK. METAL.	X		
SB. NAUCH. TR., KAZ. GORNO-MET. INST.	X		
SB. NAUCH. TR., LENINGRAD. INST. USOVERSH. VET. VRACHEI		X	
SB. NAUCH. TR., MOGILEV. OBL. GOS. SEL'SKOKHOZ. OPYT. STA.	X		
SB. NAUCH. TR., NAUCH.-ISSLED. PROEKT. INST. OBOGASHCH. AGLOM. RUD CHERN. METAL.	X		

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ABBREVIATED TITLE	AT CAS		INTERLIBRARY LOAN REQUESTS
	YES	NO	
SB. NAUCH. TR., PERM. GORN. INST.	X		
SB. NAUCH. TR., RYAZAN. MED. INST.	X		
SB. NAUCH. TR., UKR. NAUCH.-ISSLED. UGLEKHIM. INST.	X		
SB. NAUCH. TR., VOENNO-MED. FAK. SARATOV. MEDINST.	X		
SB. NAUCH.-TEKH. INFORM. VSES. INST. GEL'MINTOL.		X	
SB. NAUCH.-TEKH. TR., NAUCH.-ISSLED. INST. MET. CHELYABINSK. SOVNARKHOZA	X		
SB. PR. VYZK. USTAVU ZELEZORUD. DOLU HRUDKOVEN		X	
SB. PREDNASEK PRAC. VYZK. USTAVU TEPELNE TECH.		X	
SB. RAB. BIOL., TEKH. RYBOLOV. TEKHNOL.	X		
SB. RAB. MASLICH. KUL'T.	X		
SB. RAB., UKR. NAUCH.-ISSLED. INST. OGNEUPOROV		X	
SB. STATEI NAUCH. SOTRUDNIKOV LENINGRAD. GEOL. UCHREZHD. AKAD. NAUK SSSR	X		
SB. STATEI REZUL'T. RAB. NOVGOROD. GOS. SEL'SKOKHOZ. OPYT. STA.	X		
SB. STATNIHO GEOL. USTAVU CESK. REPUB.		X	
SB. STUD. NAUCH. RAB., PENZ. SEL'SKOKHOZ. INST.	X		
SB. STUD. RAB. KRASNODAR. GOS. PEDAGOG. INST.	X		
SB. STUD. RAB. ROSTOV. GOS. UNIV.	X		
SB. STUD. RAB. UZB. GOS. UNIV.	X		
SB. TR. ARKHANGEL'SK. MED. INST.	X		
SB. TR. AZERB. GOS. MED. INST.	X		
SB. TR. STALINSKOGO INST. USOVERSH. VRACHEI	X		
SB. TR. UFIM. NEFT. INST.	X		
SB. TR. UKR. NAUCH.-ISSLED. INST. POLIGR. PROM.	X		
SB. TR. VIL'NYUS. GOS. NAUCH.-ISSLED. INST. STROIT. MATER.	X		
SB. TR., ALTAI. GOS. MED. INST.	X		
SB. TR., GRUZ. ZOOTEKH.-VET. INST.	X		
SB. TR., GRUZ. ZOOTEKH.-VET. UCHEB.-ISSLED. INST.	X		
SB. TR., INST. STROIT. MEKH. SEISMOSTOIKOSTI, AKAD. NAUK GRUZ. SSR	X		
SB. TR., KIEV. TEKHNOL. INST. LEGK. PROM.		X	
SB. TR., KIROV. NAUCH.-ISSLED. INST. EPIDEMIOL., MIKROBIOL. GIG.	X		
SB. TR., L'VOV. NAUCH.-ISSLED. INST. PERELIV. KROVI NEOTLOZHNOI KHIR.	X		
SB. TR., MOSK. TEKHNOL. INST.	X		
SB. TR., NAUCH.-ISSLED. INST. AKUSH. GINEKOL., TIFLIS		X	
SB. TR., NAUCH.-ISSLED. INST. SANIT. TEKH.	X		
SB. TR., NAUCH.-ISSLED. ONKOL. INST., SOFIA	X		
SB. TR., ODESS. MED. INST.	X		
SB. TR., RESPUB. NAUCH.-ISSLED. INST. MESTNYKH STROIT. MATER.	X		
SB. TR., RESPUB. NAUCH.-ISSLED. INST. OKHR. MATERIN. DET.		X	
SB. TR., STALINGRAD. INST. INZH. GOR. KHOZ.	X		
SB. TR., SVERDLOVSK. NAUCH.-ISSLED. INST. PERERAB. DREV.	X		
SB. TR., TSENT. NAUCH.-ISSLED. INST. TARY UPAKOVKI	X		
SB. TR., TSKHALTUB. FILIAL, NAUCH. ISSLED. INST. KURORTOL. FIZIOTER.	X		
SB. TR., VSES. NAUCH.-ISSLED. INST. GOZNAKA	X		
SB. TR., VSES. NAUCH.-ISSLED. INST. ZAVOD. TEKHNOL. SBORNYKH ZHELEZOBETONNYKH KONSTR. IZDELII	X		
SB. TR., VSES. ZAOCH. INZH.-STROIT. INST.	X		

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ABBREVIATED TITLE	AT CAS YES	 NO	INTERLIBRARY LOAN REQUESTS
SB. USTAVU NEROSTNYCH SUROVIN KUTNE HORE		X	
SB. USTRED. USTAVU GEOL., ODDIL GEOL.		X	
SB. VYNALEZU		X	
SB., VSES. SOV. NAUCH.-TEKH. OBSHCHEST., KOM. KORROZ. ZASHCH. METAL.	X		
SCHAUMPFEIL'S REV. GLASS WORKS		X	
SCHWEIZ. CHEM.-ZTG.		X	
SCHWEIZ. CHEM.-ZTG. TECH.-IND.		X	
SCI. ABSTR. CHINA, CHEM. CHEM. TECHNOL.	X		
SCI. FARM.		X	
SCI. IND., ED. CONSTR. TRAV. PUBL.		X	
SCI. IND., ED. MET., CONSTR., MEC., ENERG.		X	
SCI. NEWS J. PHYS. CHEM.		X	
SCI. REP. OSAKA UNIV.		X	
SCI. REP. HIROSAKI UNIV.	X		
SCI. REP. NIIGATA UNIV., SER. A		X	
SCI. REP. NIIGATA UNIV., SER. B	X		
SCI. REP. NIIGATA UNIV., SER. E	X		
SCI. SOIL (1922-28)	X		
SCI. TEC.		X	
SEIKEI DAIGAKU KOGAKUBU KOGAKU HOKOKU	X		
SELEZ. TEC. MOLITORIA		X	
SENSHOKU KOGYO	X		
SHAN TUNG I K'AN		X	
SHIGA DAIGAKU KYOIKU GAKUBU KIYO, SHIZENKAGAKU		X	
SHINKU KOGYO		X	
SHOSEKI GIHO		X	
SILK RAYON DIG.		X	
SIRPUR IND. J.		X	
SITZUNGSBER. AKAD. WISS. WIEN, MATH.-NATURWISS. KL., ABT. 1		X	
SITZUNGSBER. AKAD. WISS. WIEN, MATH.-NATURWISS. KL., ABT. 2B		X	
SITZUNGSBER. AKAD. WISS. WIEN, MATH.-NATURWISS. KL., ABT. 3		X	
SKINNER'S REC. MAN-MADE FIBRES IND.		X	
SLANTS. KHIM. PROM.	X		
SOBRE DERIV. CANA AZUCAR	X		
SODA TO ENSO	X		
SOOBSHCH. MOSK. OTD. VSES. BOT. OBSHCHEST.	X		
SOOBSHCH. NAUCH.-ISSLED. RAB. NOV. TEKH., NAUCH. INST. UDOBR. INSEKTOFUNGITS., LAB. NAUCH.-TEKH. INFORM.		X	
SOOBSHCH. RAB. MEZHDUVED. POSTOYAN. KOM. ZHELEZU, AKAD. NAUK SSSR	X		
SOPRONI MUSZ. EGYET. KAROK. BANYAMERN. FOLDMEROMERN. KAROK KOZLEM.		X	
SOSIFAR	X		
SOUDNI LEK.		X	
SOUDURE OXY-COUPAGE		X	
SOV. FARM.		X	
SPEC. CONTRIB. INST. GEOPHYS. NAT. CENT. UNIV., MIAOLI, TAIWAN	X		

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
SPISY PRIRODOVED. FAK. UNIV. J. E. PURKYNE BRNE		X	
SPSE(SOC. PHOTOGR. SCI. ENG.) NEWS		X	
SQUIBB ABSTR. BULL.		X	
STROIT. ALYUM. KONSTR.	X		
STROIT. KONSTR. ALYUM. SPLAVOV	X		
STROIT. MATER. (1929-32)		X	
STROIT. MATER., IZDELIYA KONSTR.		X	
STUD. NAUCH.-ISSLED. RAB., SIB. TEKHNOL. INST.	X		
STUD. UNIV. BABES-BOLYAI. SER. 1		X	
STUD. UNIV. BABES-BOLYAI. SER. 2		X	
STUDI RIC. DIV. GEOMINERARIA, COM. NAZ. RIC. NUCL.		X	
STUDIECENTRUM TNO SCHEEPSBOUW NAVIG., REP.		X	
SUARA PHARM.	X		
SUARA PHARM. MAJ.		X	
SUDAN, MIN. AGR., BULL.		X	
SUISHITSU ODAKU KENKYU	X		
SUIYOKAI-SHI	X		
SUOM. KEMISTILEHTI B	X		7
SUTEEIFAR	X		
SV. BRYGGAREFOEREN. MANADSBL.		X	
SV. HYDROGR.-BIOL. KOMM. SKR., NY SER., BIOL.		X	
SV. PAPPERSFOERAEDLINGSTIDSKR.		X	
SVER. GEOL. UNDERS., ARSB.	X		
SYMP. WSPOLCZESNEJ MED.	X		
TA-LIEN KUNG HSUEH YUAN HSUEH K'AN		X	
TABLEWARE		X	
TAEHAN PINYOGIKWA HAKHOE CHAPCHI	X		
TAISHA	X		
TANKEN		X	
TAP SAN. HOA-HOC		X	
TATAR. NEFT		X	
TAUTSAIMN. DERIGIE AUGI		X	
TEA COFFEE TRADE J.		X	
TEC. PRACT.	X		
TECH. HLIDKA KOZELUZSKA		X	
TECH. ENG.		X	
TECH.-IND. SCHWEIZ. CHEM.-ZTG.		X	
TECHNIKA (BUDAPEST)		X	
TECHNIKA (BUENOS AIRES)		X	
TECHNIQUE (MONTREAL)		X	
TECNOQUIMICA		X	
TEKH. INFORM., SOV. NAR. KHOZ. KUIBYSHEV. EKON. ADMIN. RAIONA	X		
TEKH. USLOVIYA METODY OPRED. VREDNYKH VESHCHESTV VOZDUKHE	X		
TEKHNOL. TRANSP. MASHINOSTR.	X		
TEMAS QUIM. BIBLIOGR. QUIM. ARGENT.		X	

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ABBREVIATED TITLE	AT CAS YES	 NO	INTERLIBRARY LOAN REQUESTS
TEOR. PRAKT. STOMATOL.	X		
TEST. MOLFM.	X		
TEX., ENG. EXP. STA., RES. REP.		X	
TEXT. ARGUS		X	
TEXT. CONTACT QUART.		X	
TEXT. MERCURY INT.		X	
TEXT. MFR. J.		X	
THER. PROBL. TODAY		X	
THER. UMSCH.		X	
THESES DOCTEUR-ING., UNIV. DAKAR, SER. SCI. NATUR.		X	
TIERRA		X	
TIJDSCHR. GENEESK.		X	
TIMELY TURF TOP.		X	
TISCO REV.		X	
TOBBTERMELES		X	
TOHOKU YAKKA DAIGAKU KIYO		X	
TOKAI KINKI NOGYO SHIKENJO KENKYU HOKOKU, SAIBAI DAI-2-BU		X	
TOKAI KINKI NOGYO SHIKENJO KENKYU HOKOKU, SAIBAIBU		X	
TOKYO GAKUGEI DAIGAKU KIYO, DAI-4-BU		X	
TOKYO KOGYO DAIGAKU GAKUHO	X		
TOTTORI DAIGAKU KYOIKUGAKUBU KENKYU HOKOKU, SHIZENKAGAKU		X	
TR., ALMA-AT. NAUCH.-ISSLED. PROEKT. INST. STROIT. MATER.	X		
TR., ARKHANGEL'SK. LESOTEKH. INST.	X		
TR., AZERB. INST. NEFTI KHIM.	X		
TR., AZERB. POLITEKH. INST.	X		
TR., BURYAT. OBL. OPYT. SEL'SKHOZ. STA.	X		
TR., DAL'NEVOST. TEKH. INST. RYB. PROM. KHOZ.	X		
TR., DONETSK. GOS. MED. INST.	X		
TR., DONETSK. POLITEKH. INST., SER. FIZ.-MET.	X		
TR., DONETSK. POLITEKH. INST., SER. GEOL.	X		
TR., DONETSK. POLITEKH. INST., SER. KHIM.-TEKHNOL.	X		
TR., DONETSK. POLITEKH. INST., SER. MET.		X	
TR., DONETSK. POLITEKH. INST., SER. STROIT.		X	
TR., EREVAN. GOS. INST. USOVERSH. VRACHEI	X		
TR., ESTESTVENNONAUCH. INST. PERM. GOS. UNIV.	X		
TR., GLAVGEOLOGII [illegible] UPR. GEOL. OKHR. NEDR UZB. SSR	X		
TR., GORKIISKOGO GOS. PEDAGOG. INST.	X		
TR., GOS. ISSLED. KERAM. INST.		X	
TR., GOS. NAUCH.-ISSLED. INST. PROM. SANIT. OCHISTKI GAZOV	X		
TR., GRUZ. NAUCH.-ISSLED. INST. LEG. PROM.	X		
TR., INST. EKSP. KLIN. ONKOL., AKAD. MED. NAUK SSSR	X		
TR., INST. FIZIOL., AKAD. NAUK SSSR	X		
TR., INST. KARAKULEVOD.	X		
TR., INST. KOM. STAND., MER IZMER. PRIB. SOV. MIN. SSSR	X		
TR., INST. [illegible], TASHKENT		X	

SERIALS LISTED IN ACCESS WITHOUT U. S. LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	NO	INTERLIBRARY LOAN REQUESTS
TR. INST. ZASHCH. RAST., TIFLIS	X		
TR. IRKUTSK. GORNOMET. INST.	X		
TR. IVANOV. KHIM.-TEKHNOL. INST.	X		
TR. IZHEVSK. MED. INST.	X		
TR. KAFEDRY AVTO. TRAKT., VSES. ZAOCH. MASHINOSTROIT. INST.	X		
TR. KAVKAZ. INST. MINER. SYR'YA, SER. GEOL.		X	
TR. KAVKAZ. INST. MINER. SYR'YA, SER. POLEZ. ISKOP.		X	
TR. KAVKAZ. INST. MINER. SYR'YA, SER. TEKHNOL.	X		
TR. KAZ. INST. EPIDEMIOL., MIKROBIOL. GIG.	X		
TR. KAZ. INST. KLIN. EKSP. KHIR.	X		
TR. KAZ. NAUCH.-ISSLED. INST. ONKOL. RADIOL.	X		
TR. KAZ. POLITEKH. INST.	X		
TR. KHABAROVSK. MED. INST.	X		
TR. KHAR'KOV. GOS. FARM. INST.	X		
TR. KHAR'KOV. INST. GORN. MASHINOSTR., AVTOMAT. VYCHISL. TEKH.		X	
TR. KIEV. FILIALA, VSES. NAUCH.-ISSLED. INST. SPIRT. LIKERO-VODOCH. PROM.	X		
TR. KUTAIS. SEL'SKOKHOZ. INST.	X		
TR. LAB. IONOOBMEN. PROTSESSOV SORBTSII, NAUCH.-ISSLED. FIZ.-KHIM. INST., VORONEZH. GOS. UNIV.	X		
TR. LENINGRAD. KHIM.-TEKHNOL. INST.		X	
TR. LENINGRAD. NAUCH.-ISSLED. PSIKHONEVROL. INST.	X		
TR. LENINGRAD. TEKST. INST.	X		
TR. LITOV. INST. EKSP. KLIN. MED. AKAD. MED. NAUK SSSR	X		
TR. MATER., DONETSK. NAUCH.-ISSLED. INST. FIZIOL. TR.	X		
TR. METROL. INST. SSSR	X		
TR. MOSK. INST. TONKOI KHIM. TEKHNOL.	X		
TR. MOSK. MED. STOMATOL. INST.	X		
TR. MOSK. PUSHNO-MEKHOVOGO INST.	X		
TR. NAUCH. STUD. OBSHCHEST., GOR'K. POLITEKH. INST.	X		
TR. NAUCH.-ISSLED. INST. KABEL. PROM.	X		
TR. NAUCH.-ISSLED. INST. RYB. KHOZ., RIGA	X		
TR. NAUCH.-ISSLED. INST., MIN. RADIOTEKH. PROM. SSSR	X		
TR. NAUCH.-ISSLED. SEKT. MOSK. FILIALA INST. ORGENERGOSTROE (VSES. INST. PROEKT. ORGAN. ENERG. STROIT.)	X		
TR. NAUCH.-PROIZVOD. KONF. AGRON., BURYAT. ZOOVET. INST.	X		
TR. NAUCHNOIZSLED. INST. FARM.		X	
TR. NAUCHNOIZSLED. KHIM.-FARM. INST.	X		
TR. NIZHNEVOLZH. NAUCH.-ISSLED. INST. GEOL. GEOFIZ.	X		
TR. NORIL'SK. VECH. IND. INST.	X		
TR. NOVOKUZNETSK. GOS. PEDAGOG. INST.	X		
TR. PECHORO-ILYCHSKOGO GOS. ZAPOVEDNIKA	X		
TR. PRIKL. BOT., GENET. SELEK., PRILOZH.	X		7
TR. PRIKL. BOT., GENET. SELEK., SER. 14		X	
TR. PROBL. LAB. KHIM. VYSOKOMOL. SOEDIN., VORONEZH. GOS. UNIV.	X		
TR. PROBL. LAB. SILIKAT. MATER. KONSTR., VORONEZH. INZH.-STROIT. INST.	X		
TR. PROEKT. NAUCH.-ISSLED. INST. GIPRONIKEL (GOS. INST. PROEKT. PREDPR. NIKELEVOI PROM.)	X		

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ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
TR. RADIATS. GIG.	X		
TR. SEMIPALATINSK. ZOOVET. INST.	X		
TR. SEVEROKAVKAZ. GORNOMET. INST.	X		
TR. SIB. LESOTEKH. INST.	X		
TR. SIB. MET. INST.	X		
TR. SREDNEAZIAT. GOS. UNIV.		X	
TR. SREDNEAZIAT. GOS. UNIV., SER. 11		X	
TR. STUD. NAUCH. OBSHCHEST., AZERB. GOS. MED. INST.	X		
TR. TASHKENT. FARM. INST.	X		
TR. TASHKENT. SEL'SKOKHOZ. INST.	X		
TR. TBILIS. GOS. PEDAGOG. INST.	X		
TR. TSENT. NAUCH. ISSLED. INST. SAKH. PROM., MOSCOW	X		
TR. TSENT. NAUCH.-ISSLED. LAB., GL. UPR. GOS. MATER. REZERVOV SOV. MIN. SSSR	X		
TR. TURKM. GOS. MED. INST.		X	
TR. UKR. GOS. NAUCH.-ISSLED. INST. PRIKL. KHIM.		X	
TR. UKR. NAUCH.-ISSLED. INST. KONSERV. PROM.	X		
TR. URAL. NAUCH.-ISSLED. INST. SEL. KHOZ.	X		
TR. URAL. NAUCH-ISSLED. INST. CHERN. METAL.	X		
TR. UZB. GOS. NAUCH.-ISSLED. INST. KURORTOL. FIZIOTER.	X		
TR. VLADIVOSTOK. NAUCH.-ISSLED. INST. EPIDEMIOL., MIKROBIOL. GIG.	X		
TR. VOLGOGRAD. SEL'SKOKHOZ. INST.	X		
TR. VORONEZH. ZOOVET. INST.	X		
TR. VORONEZH. KHIM.-TEKHNOL. INST.		X	
TR. VOST. NAUCH.-ISSLED. GORNORUD. INST. GORN. FAK. SIB. MET. INST.	X		
TR. VSEROSS. NAUCH.-ISSLED. KHIM. INST. PROM. MESTNOGO PODCHINENIYA	X		
TR. VSES. INST. SODOVOI PROM.	X		
TR. VSES. NAUCH.-ISSLED. INST. SIN. MINER. SYR'YA	X		
TR. VSES. NAUCH.-ISSLED. INST. STAND. OBRAZTSOV SPEKTRAL. ETALONOV	X		
TR. VSES. SEL'SKOKHOZ. INST. ZAOCH. OBRAZOV.	X		
TR. YAROSLAV. SEL'SKOKHOZ. INST.	X		
TR., BELORUSS. NAUCH.-ISSLED. INST. PISHCH. PROM.		X	
TR., GOLOVNOI NAUCH.-ISSLED. INST. TSEM. MASHINOSTR.	X		
TR., GOS. NAUCH.-ISSLED. INST. AVTOMAT. PROIZVOD. PROTSESSOV KHIM. PROM. TSVET. MET.	X		
TR., GOS. VSES. INST. PROEKT. PREDPR. KOKSOKHIM. PROM. SSSR	X		
TR., GOS. VSES. PROEKT. NAUCH.-ISSLED. INST. TSEM. PROM.	X		
TR., GRUZ. NAUCH.-ISSLED. INST. ZHIVOTNOVOD. VET.	X		
TR., KUIBYSHEV. INZH.-STROIT. INST.	X		
TR., LITOV. FILIAL VSES. NAUCH.-ISSLED. INST. MASLODEL.-SYRODEL. PROM.	X		
TR., MOLD. NAUCH.-ISSLED. INST. GIG. EPIDEMIOL.	X		
TR., MOSK. NAUCH.-ISSLED. INST. VIRUS. PREP.	X		
TR., NAUCH.-ISSLED. INST. SIN. SPIRTOV ORG. PROD.	X		
TR., NAUCH.-ISSLED. INST. SIN. ZHIROZAMEN. MOYUSHCH. SREDSTV	X		
TR., TERNOPOL. GOS. MED. INST.	X		
TR., TSENT. INST. TRAVMATOL. ORTOP.	X		
TR., TSENT. NAUCH.-ISSLED. AVTO. AVTOMOT. INST.	X		1

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ABBREVIATED TITLE	AT CAS		INTERLIBRARY LOAN REQUESTS
	YES	NO	
TR., TSENT. NAUCH.-ISSLED. GORNORAZVED. INST.	X		
TR., URAL. NAUCH.-ISSLED. PROEKT. INST. MEDNOI PROM.	X		
TR., VSES. NAUCH.-ISSLED. INST. MAGN. ZAPISI TEKHNOL. RADIOVESHCHANIYA TELEV.	X		
TR., VSES. NAUCH.-ISSLED. INST. PRIR. GAZOV	X		
TR., VSES. NAUCH.-ISSLED. INST. TAB. MAKHOR. PROM.		X	
TR., VSES. NAUCH.-ISSLED. INST. TSFM.		X	
TR., VSES. NAUCH.-ISSLED. PROEKT. INST. ALYUM., MAGNIEVOI ELEKTRODNOI PROM.		X	
TRANS. AMER. COLL. CARDIOL.		X	
TRANS. CORNISH INST. ENG.	X		
TRANS. INT. CERAM. CONGR.		X	
TRANS. MORRIS CTY. RES. COUNC.	X		
TRANS. ROY. SOC. CAN., SECT. 1,2,3		X	
TRANS. SOC. ADVAN. ELECTROCHEM. SCI. TECHNOL.	X		
TRANS., INDIAN INST. CHEM. ENG.	X		
TRAV. LAB. GEOL. FAC. SCI. UNIV. BORDEAUX		X	
TSITOTOKSINY SOVREM. MED.	X		
TUNG CHI TA HSUEH HSUEH PAO		X	
TUNG PEI JEN MIN TA HSUEH TZU JAN K'O HSUEH HSUEH PAO		X	
TURK. TIP ENCUMENI ARSIVI		X	
TURK. TIP. AKAD. MECM.	X		
TYAZH. MASHINOSTR.		X	
U. K. AT. ENERGY AUTH., RADIOCHEM. CENT., MEMO.	X		
U. K. AT. ENERGY AUTH., RADIOCHEM. CENT., REP.	X		
U. S. PAP. MAKER		X	
U. S., DEP. AGR., AGR. HANDB.	X		
U. S., DEP. AGR., CIRC.		X	
UCH. ZAP. DAGESTAN. GOS. UNIV.	X		
UCH. ZAP. KHABAROVSK. GOS. PEDAGOG. INST.	X		
UCH. ZAP. PETROZAVODSK. GOS. UNIV., FIZ.-MAT. NAUKI		X	
UCH. ZAP., ARZAMAS. GOS. PEDAGOG. INST.	X		
UCH. ZAP., BREST. GOS. PEDAGOG. INST.	X		
UCH. ZAP., DAGESTAN. GOS. PEDAGOG. INST.	X		
UCH. ZAP., GOMEL. GOS. PEDAGOG. INST.	X		
UCH. ZAP., KARAGAND. GOS. MED. INST.	X		
UCH. ZAP., KIEV. NAUCH.-ISSLED. RENTGENO-RADIOL. ONKOL. INST.	X		
UCH. ZAP., KIROVABAD. PEDAGOG. INST.	X		
UCH. ZAP., LENINGRAD. GOS. PEDAGOG. INST. IM. M. N. POKROVSKOGO, FAK. ESTESTVOZN.	X		
UCH. ZAP., MICHURINSK. GOS. PEDAGOG. INST.	X		
UCH. ZAP., MUROM. GOS. PEDAGOG. INST.	X		
UCH. ZAP., NOVOSIBIRSK. INST. SOV. KOOP. TORG.	X		
UCH. ZAP., PYATIGORSK. FARM. INST.	X		
UCH. ZAP., PYATIGORSK. GOS. NAUCH.-ISSLED. BAL'NEOL. INST.	X		
UCH. ZAP., RYBINSK. GOS. PEDAGOG. INST.	X		
UCH. ZAP., TASHKENT. VECH. PEDAGOG. INST.	X		
UCH. ZAP., TSENT. NAUCH.-ISSLED. INST. OLOVYANNOI PROM.	X		

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UCH. ZAP., USSURIISK. GOS. PEDAGOG. INST.	X		
UCH. ZAP., VYBORG. GOS. PEDAGOG. INST.	X		
UGOL' ZHELEZO		X	
UNGERER'S BULL.		X	
UNITED SERV. REV.		X	
UNIV. TORONTO, BIOL. SER.		X	
URAL. MET.		X	
UTAH STATE MED. J.		X	
UTAH, DEP. NATUR. RESOUR., TECH. PUBL.		X	
VALTION TEK. TUTKIMUSLAITOS, TIEDOTUS		X	
VEDAG- (VER. DACHPAPPEN-FABR. AG) BUCH		X	
VENEFICUS	X		
VEROEFF. REICHSGESUNDHEITSAMTS		X	
VEROEFF. WISS. PHOTO-LAB. AGFA		X	
VEROEFF. WISS. ZENT.-LAB. PHOTOGR. ABT. AGFA		X	
VERPACK.-MAG.	X		
VESMIR	X		
VESTN. KARAKALPAK. FILIALA AKAD. NAUK UZB. SSR	X		
VESTN. LENINGRAD. UNIV., GEOL., GEOGR.	X		
VESTN. LENINGRAD. UNIV., SER. BIOL., GEOGR. GEOL.	X		
VESTN. STUD. NAUCH. OBSHCHEST., KAZAN. GOS. UNIV., ESTESTV. NAUKI	X		
VICTOIRES CANCER		X	
VIDA MED.		X	
VIRULY		X	
VOP. BIOFIZ., BIOKHIM. PATOL. ERITROTSITOV	X		
VOP. BOR'BY SILIKOZOM SIB.		X	
VOP. GEOL. NEFTEGAZONOS. UZB.	X		
VOP. ISSLED. NEFTEI NEFTEPROD., RAZRAB. PROTSESSOV PERERAB. NEFTI OBSLED. ZAVOD. USTANOVOK		X	
VOP. KURORTOL. REVMATOL.	X		
VOP. SEL'SKOKHOZ. PROM. MIKROBIOL.		X	
VOP. VOD. KHOZ.	X		
VREMENNIK GL. PALATY MER VESOV		X	
VSES. NAUCH.-ISSLED. PROEKT. INST. MEKH. OBRAB. POLEZ. ISKOP., NAUCH.-TEKH. INFORM. BYULL.		X	
WASH. STATE UNIV., COLL. ENG., CIRC.	X		
WASH., AGR. EXP. STA., CIRC.	X		
WASH., DIV. MINES MINING, REP. INVEST.		X	
WATER (TEMPLE, TEX.)	X		
WATER POLLUT. CONTR.	X		3
WEATHER DEVELOP. RES. BULL.		X	
WELD. RES. (NEW YORK)		X	
WERKZEUGMASCHINE		X	
WEST. CONTRACT.		X	
WIEN. LANDWIRT. ZTG.		X	
WILHELM ROUX' ARCH. ENTWICKLUNGSMECH. ORGANISMEN		X	
WISS. MITT. PHARM. FORSCH.- FORTBILD.-INST. OESTERR. APOTH.-VER.		X	

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ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
WISS. VEROEFF. DEUT. GES. ERNAEHR.	X		
WISS. VEROEFF. TECH. HOCHSCH., DARMSTADT		X	
YAKUZAIGAKU	X		
YAMAGUCHI DAIGAKU RIGAKKAI SHI		X	
YAROSLAV. PROM.		X	
YEN CHIU SHIH YEN PAO KAO, CHUNG KUO SHIH YU YU HSIEN KUNG SZU HSIN-CHU YEN CHIU YUAN		X	
Z. GESAMTE GETREIDE- MUEHLEN- BAECKEREIW.		X	
Z. GESAMTE GETREIDEW.		X	
Z. GESAMTE MUEHLENW.		X	
Z. MILITAERMED.	X		1
Z. OESTERR. ING.- ARCHITEKTEN-VER.		X	
Z. TIERERNAEHR. FUTTERMITTELK.		X	
Z. ZUCKERIND. BOEHMEN-MAEHREN		X	
ZA PROGR. PROIZVOD.	X		
ZA TEKH. PROGR. (GORKIY)	X		
ZAP. TADZH. OTD. VSES. MINERAL. OBSHCHEST.	X		
ZEMLEROBSTVO	X		
ZESZ. NAUK. POLITECH. KRAKOW., MECH.	X		
ZESZ. NAUK. UNIW. JAGIELLON., PR. FIZ.	X		
ZIVILER LUFTSCHUTZ		X	
ZOOTECH. EXP. STA., RES. BULL.		X	

APPENDIX 20

Conference Proceedings Volumes Listed in ACCESS Without Library Holdings Including Indication of Status of CAS Library Holdings and Frequency of Occurrence in the Interlibrary Loan File

CONFERENCE PROCEEDINGS VOLUMES LISTED IN ACCESS WITHOUT LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS		INTERLIBRARY LOAN REQUESTS
	YES	NO	
AEROZOLI IKH PRIMEN., TR. MEZHVEDOM. SOVESHCH. AEROZOLYAM, 2ND	X		
AERZTL. MASSNAHMEN AUSSERGEWOEHNLICHER STRAHLENBELASTUNG, INFORMATIONSTAG.	X		
ALKYLIEREND WIRKENDE VERBINDUNGEN, KONF. N-NITROSO-VERBINDUNGEN LACTONE, 1ST	X		
AN. CONGR. ESTADUAL QUIM. TECHNOL., 2ND		X	
ANNOT. DOKL. NAUCH. KONF. AKAD. NAUK. LATV. SSR PRIMEN. RADIOAKTIV. IZOTOP. TEKH., BIOL. MED.	X		
ASPECTS PLANT PHENOLIC CHEM., PROC. SYMP., 3RD	X		
ATEROSKLER., TR. SIMP.	X		
ATMOS. OZON, MATER. MEZHDUVEDOM. SOVESHCH., 3RD	X		
ATTI CONV. CHIM. ITAL., 2ND	X		
ATTI CONV. INT. MATER. PLAST. CONFEZIONAMENTO PROD. FARM., 2ND	X		
ATTI CONV. NAZ. STUD. APPL. PROD. API CAMPO MED.-BIOL., 1ST	X		
ATTI CONV. REG. ALIMENT., CONV. NAZ. QUAL., 1ST	X		
ATTI SIMP. DETERSIVI, 2ND	X		
ATTI SYMP. INT. ESTERE CORI GLUCIDI FOSFORILATI, 1ST	X		
AUST. ROAD RES. BD., PROC. CONF. , 3RD	X		
AVTOMAT. TEKHNOL. PROTSESSOV MOLOCH. PROM., SB. DOKL. VSES. KONF.	X		
BER. INT. KONGR. UNIVERSELLE MOOR- TORFFORSCH., 8TH	X		
BER. INT. KONGR. UNIVERSELLE MOORFORSCH., 6TH	X		
BIOCHIM. LAT. 1963, ATTI GIORNATE, 7TH	X		
BIOKHIM. IZMEN. ORGANIZME TRAVME, TR. KONF. NAUCH. RAB. BIOKHIM. LAB. INST. TRAVMATOL. ORTOP.	X		
BIOL. OSN. RYB. KHOZ. VNUTR. VODOEMAKH PRIBALTIKI, TR. NAUCH. KONF.	X		
BOL'SHOI DZHEZKAZGAN, GEOL. METALLOGEN., TR. OB'EDIN. NAUCH. SESS. PROBL. RAZV. PROIZVOD. SIL DZHEZKAZGAN. PROM. RAIONA	X		
BOL'SHOI DZHEZKAZGAN, ZDRAVOOKHR., TR. OB'EDIN. NAUCH. SESS. PROBL. RAZV. PROIZVOD. SIL DZHEZKAZGAN. PROM. RAIONA	X		
BOR'BA OTLOZH. PARAFINA, DOKL. SOOBSHCH., VSES. KONF.	X		
BOR'BA SILIKOZOM, SB. RAB. MEZHDUNAR. SIMP.	X		
BUROVZRYVNYE RAB. GORN. PROM., TR. NAUCH.-TEKH. SOVESHCH., 4TH	X		
CAN. MFR. CHEM. SPEC. ASS., COMPENDIUM PAP. ANNU. MEET. CONF., 7TH	X		
CAN. MFR. CHEM. SPEC. ASS., COMPENDIUM PAP. NAT. CONV., 2ND	X		
CHEM. BIOL. ASPECTS PYRIDOXAL CATAL., PROC. SYMP. INT. UNION BIOCHEM.	X		
CHIST. METAL. POLUPROV., TR. MEZHVUZ. KONF.,, 1ST	X		
COLLOQ. GRENSLAAGVERSCHIJNSELEN, VLOEISTOFFILMEN SCHUIMEN EMULSIES		X	
COLLOQ. INT. CHIM. CAFES VERTS, TORREFIES LEURS DERIV., C.R.	X		
COLLOQ. INT. CHOLESTEROL, LIVRE RAPP.	X		
CONF. ACAD. SCI. USSR PEACEFUL USES AT. ENERGY, SESS. DIV. BIOL. SCI.		X	
CONF. ACAD. SCI. USSR PEACEFUL USES AT. ENERGY, SESS. DIV. CHEM. SCI.		X	
CONF. ACAD. SCI. USSR PEACEFUL USES AT. ENERGY, SESS. DIV. PHYS. MATH. SCI.		X	
CONF. ACAD. SCI. USSR PEACEFUL USES AT. ENERGY, SESS. DIV. TECH. SCI.		X	
CONGR. ASS. TECH. FONDERIE, C.R. , 29TH	X		
CONGR. CHILENO OBSTET. GINECOL., 9TH	X		
CONGR. LUSO-ESPAN. FARM., 2ND		X	
CONGR. SOC. PHARM. FR., C. R. , 9TH	X		
CONTAINMENT SITING NUCL. POWER PLANTS, PROC. SYMP.	X		

CONFERENCE PROCEEDINGS VOLUMES LISTED IN ACCESS WITHOUT LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS		INTERLIBRARY LOAN REQUESTS
	YES	NO	
CONV. PROBL. ACOUE ITAL., ATTI CONV.	X		
DEFEKTY OTLIVOK MERY IKH PREDUPREZHDENIYA, DOKL. NAUCH.-PROIZVOD. KONF.		X	
DEUT. KAUTSCHUK-GES. VORTRAGSTAG., DOK.		X	
DEUT. KAUTSCHUK-GES. VORTRAGSTAG., VORTR.		X	
DISTURBI ORM. NEUROVEG. OTORINOLARINGOIAT., SOC. OTO-RHINO-LARYNGOL. LAT. CONV., 12TH		X	
DOKL. MEZHDUNAR. KONGR. POCHVOVED., 8TH		X	
DOKL. MEZHVUZ. NAUCH. KONF. SPEKTROSK. SPEKTRAL. ANAL.	X		
DOKL. NAUCH. KONF. NOVOKUZNETSK. GOS. PEDAGOG. INST. BIOL. NAUKAM, 7TH	X		
DOKL. NAUCH. KONF., RAB. ASHINSKIMI FOSFORITAMI		X	
DOKL. NAUCH. KONF., STALINGRAD. SEL'SKOKHOZ. INST.		X	
DOKL. NAUCH.-TEKH. KONF. MOLODYKH SPETS. LES. PROIZVOD. URALA ITOGAM RAB., 2ND	X		
DOKL. OCHEREDNOI NAUCH. SESS. KISHINEV. MED. INST. ITOGAM NAUCH.-ISSLED. RAB. 1963 GOD, 22ND	X		
DOKL. RESPUB. SOVESHCH. VOP. ISPOL'Z. MET. SHLAKOV STROIT.	X		
DOKL. SOOBSHCH. MEZHDUNAR. KONGR. VINOGRAD. VINODEL., SEKTS. VINODEL. , 10TH	X		
DOKL. SOV. POCHVOVED. MEZHDUNAR. KONGR. SSHA, 7TH	X		
DOKL. SOVESHCH. MODIF. CHUGUNA		X	
DOKL. VSES. KONF. LITEISHCHIKOV, 18TH	X		
DOKL. VSES. KONF. MOLOCH. DELU	X		
DOMENNYE SHLAKI STROIT., TR. SOVESHCH.	X		
DOPOV. POVIDOMLENNYA, DROGOBITS'KII DERZH. PEDAGOG. INST., MATER. ZVITNOI NAUK. KONF. INST. 1961 RIK, SER. FIZ.-MAT. NAUK, 4TH	X		
DOROGI MOSTY, DOKL. NAUCH. KONF., LENINGRAD. INZH. STROIT. INST., 20TH	X		
DYSOSTOSEN GEN. LOKALISIERTE KNOCHENENTWICKLUNGSSTOERUNGEN, VERH. TAG. GES. KONSTITUTIONSFORSCH., 9TH	X		
ELEK. KONTAKTY, TR. SOVESHCH., 2ND	X		
ELEK. KONTAKTY, TR. SOVESHCH., 4TH	X		
EMAL EMALIROVANIE METAL., MATER. NAUCH.-TEKH. SOVESHCH.	X		
EUR. SEMIN. SANIT. ENG., REP., 8TH		X	
EUR. SYMP. FRESH WATER SEA, PREPR. PAP., 2ND	X		
EVOL. FIZIOL FUNKTS., MATER. NAUCH. SOVESHCH., 2ND	X		
FIZ. KHIM., DOKL. NAUCH. KONF. LENINGRAD. INZH.-STROIT. INST., 19TH		X	
FIZ.-KHIM. ISSLED. GIDROSLYUD, MATER. SOVESHCH. PROBL. PRIMEN. VERMIKULITA STROIT.	X		
FIZ.-KHIM. MEKH. POCHV, GRUNTOV, GLIN STROIT. MATER., DOKL. VSES. KONF.	X		
FIZ.-KHIM. TEPLOFIZ. PROTSESSY KRIST. STAL'NYKH SLITKOV, TR. KONF., 2ND	X		
FIZ., DOKL. NAUCH. KONF., LENINGRAD. INZH.-STROIT. INST., 21ST		X	
FIZIOL. BIOKHIM. OSN. POVYSH. PROD. SEL'SKOKHOZ. ZHIVOTN., SB. DOKL. VSES. KONF., 3RD	X		
FLOTATSIYA UGLEI OBOGAT. FABR., MATER. OTRASLEVOGO SOVESHCH.	X		
GASTROENTEROL., ACTA CONVENTUS MED. INTERN. HUNG., 3RD	X		
GAZOPLAM. OBRAB. METAL., TR. VSES. NAUCH.-TEKH. KONF.	X		
GEOL. PERSPEKT. METALLONOS. DOKEMBR. BELORUSS. SMEZHNYKH RAIONOV, DOKL. SOVESHCH.	X		
GEOL. PERSPEKT. METALLONOS. DOKEMBR. BELORUSS. SMEZHNYKH RAIONOV, DOKL. SOVESHCH.	X		
GEOL. POLEZ. ISKOP. TSENT.-CHERNOZEM. OBL., TR. MEZHOBL. GEOL. SOVESHCH.	X		
GEOL. STR. NEFTEGAZONOS. VOST. OBL. UKR., TR. NAUCH.-PROIZVOD. SOVESHCH. PROBL. NEFTEGAZONOS. UKR.	X		
GERTSENOVSKIE CHTENIYA, FIZ., 19TH	X		
GIG. TOKSIKOL. NOV. PESTITS. KLIN. OTRAVLENII, DOKL. VSES. NAUCH. KONF., 2ND	X		

CONFERENCE PROCEEDINGS VOLUMES LISTED IN ACCESS WITHOUT LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
GIG. TR. PROF. PATOL. OSN. OTRASLYAKH PROM., DOKL. KONF.	X		
GIG. VODOKHRAN., TR. NAUCH. KONF.	X		
GRASSI ALIMENT. LIPIDI EMATICI, ATTI CONV. INT. LIPIDI ALIMENT. SIMP. GENUINITA OLI ALIMENT., 3RD		X	
GROSSES MOL. SOLUTION HOMMAGE NAT. PAUL LANGEVIN JEAN PERRIN, COLLOQ.		X	
IDENTIFICATION DRUGS POISONS, SYMP.	X		
IND. ANWEND. RADIOISOTOP., VORTR. INT. STUDIENTAG.	X		
IND. FAILURE ENG. METALS ALLOYS, SYMP.		X	
INDIAN STAND. CONV., PAP. SESS. T-7, LATEST TECH. CHEM. ANAL.	X		
INST. NUCL. MATER. MANAGE., ANNU. MEET., 1ST	X		
INT. COMM. UNIFORM METHODS SUGAR ANAL., REP. PROC. SESS., 12TH		X	
INT. CONGR. VITREOUS ENAMELLING, PROC. , 4TH		X	
INT. FRUCHTSAFT-KONGR., KONGR.-HAUPTBER., 4TH	X		
INT. KONF. ABWASSERVERWERT. BEWAESSERUNG. MITT., 4TH	X		
INT. SYMP. ANTI-CORROS. PROT., PREPR.	X		
INT. SYMP. BIOL. ACTIVE MUCOIDS, PAP.	X		
ION EXCH. ITS APPL., PAP. CONF.	X		
ISPOL'Z. TROSTNIKA ODNOLETNYKH RAST. TSELLYUL.-BUM. PROM., DOKL. KONF.	X		
ISSLED. OBL. KHROMATOGR., TR. VSES. SOVESHCH.	X		
ISSLED. OBLAKOV, OSADKOV GROZOVOGO ELEK., SB. DOKL. MEZHVEDOM. KONF., 5TH	X		
IZMENCHIVOST MIKROORGANIZMOV BAKTERIOFAGIYA, MATER. KONF.	X		
IZUCH. ISPOL'Z. LEK. RAST. RESUR. SSSR, TR. VSES. NAUCH. FARM. KONF.	X		
IZUCH. OSVOENIE GIDROMINER. RESUR. AZERB. SSR, TR. AZERB. RESPUB. GIDROGEOL. NAUCH. SESS., 1ST	X		
JOURNEE AUTOMAT., CONF.	X		
JOURNEE ETUD. FLAMMES, RAPP. , 4TH	X		
JOURNEE ETUDE ALTERATION OXYDATIVE CORPS GRAS		X	
JOURNEE ETUDE TOURTEAUX	X		
JOURNEE INFORM. TOURNESOL, C R.	X		
JOURNEES INFORM. CORPS GRAS ANIM., C. R.		X	
JOURNEES INFORM. CORPS GRAS IND. CHIM. HUILES IND., ACIDES GRAS, LIPOCHIM.	X		
JOURNEES INFORM. 1964 PROD. DERIV. HUILERIE	X		
KATAL. VYSSH. SHK., TR. MEZHVUZ. SOVESHCH., 1ST	X		
KHIM. PROMYVKA POVERKH. NAGREVA KOTLOV, METODY POSLEPROMYVOCHNOI KONSERV. KHIM. KONTR., MATER. SOVESHCH. KHIM. MEKH. OCHISTKE KOTLOAGREGATOV .		X	
KHIM. SOSTAV EKSPLUAT. SVOISTVA SMAZ. MASEL, TR. SOVESHCH.	X		
KHIM. TEKHNOL. MINER. UDOBR., DOKL. VSES. NAUCH. KONF., 4TH	X		
KHIM. TEKHNOL. NEKOT. SPETS. VIDOV TSEM., MATER. KRASNOYARSK. ZON. NAUCH.-TEKH. KONF.	X		
KHIM. TEKHNOL. PROIZVOD. TSELLYUL., DOKL. VSES. NAUCH.-TEKH. SOVESHCH.	X		
KHIM., FIZ.-KHIM. SPEKTRAL. METODY ISSLED. RUD REDK. RASSEYAN. ELEM., MATER. SOVESHCH. RAB. PROIZVOD. NAUCH.-ISSLED. LAB. MIN. GEOL. OKHR. NEDR, 7TH	X		
KHIM., TEKHNOL. PRIMEN. PROIZVOD. PIRIDINA KHINOLINA, MATER. SOVESHCH.	X		
KLIN. PRIMEN. ANTIBIOT., SB. DOKL. KONF.	X		
KOMPLEKS. ISPOL'Z. BUROKHROMISTYKH RUD SEROVSKOGO MESTOROZHD., KOORD. SOVESHCH.		X	
KOMPLEKS. ISPOL'Z. DREV., MATER. KONF.	X		
KOMPLEKS. PERERAB. POLIMETAL. SYR'YA, TR. VSES. NAUCH.-TEKH. KONF.		X	
KOMPLEKSONY SIN., SVOISTVA, PRIMEN. BIOL. MED., TR. SOVESHCH.	X		

CONFERENCE PROCEEDINGS VOLUMES LISTED IN ACCESS WITHOUT LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	NO	INTERLIBRARY LOAN REQUESTS
KONF. VLASTNOSTECH SILIKAT. SUROVIN, SB. PREDNASEK KONF.	X		
KONSTR. IZDELIYA OSN. VERMIKULITA, MATER. SOVESHCH.	X		
KORROZ. USTALOST METAL., SB. DOKL., VSES. SOVESHCH.	X		
KRAEV. PATOL. VIRUS. NEIROINFEKSTII, TR. OB'EDIN. NAUCH. SESS. LVOV. INST. EPIDEMIOL, MIKROBIOL. GIG., INST. VIRUSOL. AKAD. MED. NAUK SSSR INST. INFEK. BOLEZ. AKAD. MED. NAUK SSSR		X	
KRUGOVOROT VESHCHESTVA ENERG. OZER. VODOEMAKH, MATER. LIMNOL. SOVESHCH.	X		
KRUPNORAZMERNYE IZDELIYA SILIKAT. MATER. RAZLICHNYKH VYAZHUSHCHIKH, MATER. SEMIN.	X		
KYOTO DAIGAKU NOGAKUBU CHIKUSANGAKU KENKYUSHITSU SOSETSU 25-NEN KINEN ROMBUNSHU		X	
LECH. DIAGN. PRIMEN. RADIOAKTIV. IZOTOP., TR. UKR. KONF., 1ST		X	
LEOBENER BERGMANNSTAG, TAGUNGSBER. VORTR.		X	
LIPIDI ALIMENT. ATTIVITA' EPATICHE, ATTI CONV., 2ND	X		
LIT'E OBRAB. SPLAVOV CHERN. TSVET. METAL., DOKL. NAUCH.-TEKH. KONF., KRASNOYARSK. INST. TSVET. METAL.	X		
LIT'E, METALLOVED. OBRAB. METAL. DAVLENIEM, DOKL. NAUCH.-TEKH. KONF., KRASNOYARSK. INST. TSVET. METAL.	X		
LITEINOE PROIZVOD., TR. VSES. SOVESHCH.	X		2
LUCR. CONF. NAT. FARM.		X	
MATER. GEOL. POLEZ. ISKOP. ZAPAD. SIB., DOKL. KONF.	X		
MATER. IZUCH. LESOV SIB. DAL'NEGO VOSTOKA, TR. KONF.	X		
MATER. KONF. ITOGAM NAUCH.-ISSLED. RAB. 1964 GOD, FIZ., KHIM. KHIM. TEKHNOL., SIB. TEKHNOL. INST.	X		
MATER. KONF. MOLODYKH NAUCH. RAB. G. KAZANI, SEKTS. KHIM., 1ST	X		
MATER. KONF. MOLODYKH NAUCH. SOTRUDNIKOV, AKAD. NAUK SSSR, VOST.-SIB. FILIAL		X	
MATER. KONF. MOLODYKH UCH. AKAD. NAUK BELORUSS. SSR	X		
MATER. KONF. MOLODYKH UCH. AKAD. NAUK BELORUSS. SSR, SER. TEKH. ESTESTV. NAUK		X	
MATER. KONF. MOLODYKH UCH. MOLD., SEKTS. FIZ.-MAT., 4TH	X		
MATER. KONF. MOLODYKH UCH. MOLD., SEKTS. FIZIOL. MED., 4TH	X		
MATER. KONF. MOLODYKH UCH. MOLD., SEKTS. POCHVOVED. AGROKHIM., 4TH	X		
MATER. KONF. PATOLOGOANATOMOV LATV., 4TH	X		
MATER. MEZHVUZ. KONF. MASH. APP. DIFFUZ. PROTSESSOV	X		
MATER. NAUCH. KONF. ASPIR., AZERB. GOS. UNIV.	X		
MATER. NAUCH. KONF. FARMAKOL., 9TH	X		
MATER. NAUCH. KONF. KHIM. KHIM. TEKHNOL., 1ST	X		
MATER. NAUCH. KONF. PROBL. FUNKTS. VZAIMOOTNOSHENIYA RAZLICHNYMI SIST. ORGANIZMA NORME PATOL.	X		
MATER. NAUCH. KONF., VOLGOGRAD. POLITEKH. INST.		X	
MATER. NAUCH. KONF., VORONEZH. SEL'SKOKHOZ. INST.		X	
MATER. NAUCH.-PRAKT. KONF. RADIATS. GIG., 3RD	X		
MATER. NAUCH.-TEKH. KNOF. VOP. KHIM. TEKHNOL. YACHEISTOGO BETONA, EKON., ORGAN. PROIZVOD., PROEKT. STROIT. ZDANII PRIMEN. YACHEISTOGOBETONA	X		
MATER. NAUCH.-TEKH. KONF. LITEISHCHIKOV	X		
MATER. NAUCH.-TEKH. KONF. MOLODYKH UCH. AKAD. NAUK SSSR, SIB. OTD., 3RD	X		
MATER. NAUCH.-TEKH. KONF., PIVO-BEZALK. PROM. SSSR	X		
MATER. NAUCH.-TEKH. SOVESHCH. SZHIZHENNYM GAZAM.	X		
MATER. OB'EDIN. NAUCH. SESS. INST. STROIT. MATER. SOORUZHENII ZAKAVKAZ. RESPUB.	X		
MATER. RAB. SOVESHCH. FIZ. MEDLENNYKH NEITRONOV	X		
MATER. RESPUB. NAUCH.-TEKH. MED. KONF. BOR'BE SILIKOZOM	X		

CONFERENCE PROCEEDINGS VOLUMES LISTED IN ACCESS WITHOUT LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS		INTERLIBRARY LOAN REQUESTS
	YES	NO	
MATER. SOVESHCH. AKTUAL. VOP. KLIN. BIOKHIM., 1ST	X		
MATER. SOVESHCH. GEOL. VOST. SIB. DAL'NEGO VOSTOKA METOD. GEOL.-S'EMOCHNYKH POISKOVYKH RAB.	X		
MATER. SOVESHCH. GL. MET. ZAVODOV INST. AVTO. PROM.		X	
MATER. SOVESHCH. PRIMEN. IONNOGO OBMENA TSVET. MET.	X		
MATER. SOVESHCH. RAB. LAB. GEOL. ORGAN., 9TH	X		
MATER. URAL. SOVESHCH. SPEKTROSK., 2ND	X		
MATER. VSEROSS. S'EZDA FARM., 1ST	X		
MATER. VSES. KONF. FARM., 2ND	X		
MATER. VSES. SOVESHCH. SPEKTROSK.-ANAL. TSVET. MET., 2ND	X		
MEKH. AVTOMAT. PROIZVOD. PROTSESSOV MASLOZHIR. PROM., SB. DOKL. VSES. NAUCH.-TEKH. SOVESHCH.	X		1
MEKH. KANTSEROGENEZA, TR. SIMP.	X		
MEM. CONGR. INT. LEPRA, 5TH		X	
MEM. CONGR. MEX. ANESTESIOL., 7TH	X		
METALLOGEN. DOKEMBR. SHCHITOV DREVNIKH PODVIZHNYKH ZON, DOKL. VSES. OB'EDIN. SESS., 2ND	X		
METOD. IZUCH. KARSTA, TR. VSES. SOVESHCH.		X	
METODY ISSLED. FIZIOL. BIOKHIM. KHLOP., REZUL'T. RAB. METOD. SOVESHCH.	X		
METODY POLYAROGR. ANAL. MINER. SYR'YA, ITOGI SEMIN. RAB. LAB. GEOL. UPR., TRESTOV EKSPED.	X		
METODY, PRIB. OBORUDOVANIE, PRIMEN. ISSLED. ISPYT. SEL'SKOKHOZ. TEKH., MATER. MEZHDUNAR. SOVESHCH.-SEMIN.	X		
MIKROELEM. ESTESTV. RADIOAKTIV. POCHV, MATER. MEZHVUZ. SOVESHCH., 3RD	X		
MIKROELEM. POCHVAKH, VODAKH ORGANIZMAKH VOST. SIB. DAL'NEGO VOSTOKA IKH ROL ZHIZNI RAST., ZHIVOTN. CHELOVEKA, TR. KONF., 1ST	X		
MIKROELEM. SEL. KHOZ., DOKL. RESPUB. SOVESHCH.,1ST		X	
MIKROELEM. ZHIVOTNOVOD., MATER. KONF.		X	
MOD. QUANTUM CHEM LECT. ISTANBUL INT. SUMMER SCH.	X		
NAGNETANIE VODY UGOL. PLASTY POVYSH. BEZOP. GORN. RAB., SB. TR. VSES. NAUCH.-TEKH. SOVESHCH.	X		
NAJNOWSZE PROBL. DZIEDZINY ANTYBIOT., MATER. MIEDZYNAR. SYMP. NATEMAT ANTYBIOT.		X	
NAUCH.-TEKH. KONF., NAUCH. STUD. OBSHCHEST., MOSK. NEFTEKHIM. GAZOV. PROM. INST., DOKL. , 11TH 12TH	X		
NEPRERYVNOE BROZHENIE VYRASHCHIVANIE MIKROORGANIZMOV, MATER. SOVESHCH.	X		
NEW HORIZ. BIOENG., PAP. BIOENG. SYMP.		X	
NORD. KEMIKERMOEDE, 9TH	X		
NORD. SYMP. HARSKNING FEDTSTOFFER, FOREDRAG DISKUSS., 2ND	X		
NOV. FIZ. METODY OBRAB. PISHCH. PROD., DOKL. SOOBSHCH. VSES. KONF.	X		
NOV. METODY ANAL. MET. METALLOOBRAB. ZAVODAKH, DOKL. SOVESHCH.		X	
NOV. METODY RATSION. ISPOL'Z. MESTNYKH TOPL., TR. SOVESHCH.	X		
NOV. NAPRAVLENIYA OBOGASHCH. RUD, MATER. SOVESHCH.	X		
NOV. PNEVMO-GIDRAVL. AVTOMAT., DOKL. SOOBSHCH., VSES. SOVESHCH.-SEMIN., 4TH	X		
NOV. TEKHNOL. METODY OBRAB. METAL., MATER. SEMIN.	X		
NOV. TEOR. PRAKT. PROIZVOD. MARTENOVSKOI STALI, TR. MEZHVUZ. NAUCH. SOVESHCH.	X		
OB'EDIN. NAUCH. SESS. INST. STROIT. MATER. SOORUZHENII ZAKAVKAZ. RESPUB., MATER.	X		
OBMEN VESHCHESTV PSIKH. ZABOL., MATER. KONF.	X		
OCHISTKA PROM. STOCHNYKH VOD, MATER. SOVESHCH.	X		
OCHISTKA PROM. STOCHNYKH VOD, TR. SOVESHCH.	X		
OKHR. PRIR. KOMI ASSR, MATER. NAUCH.-PROIZVOD. KONF.	X		
OKHR. VOD. RESUR. OCHISTKA STOCHNYKH VOD, MATER. KONF.	X		

CONFERENCE PROCEEDINGS VOLUMES LISTED IN ACCESS WITHOUT LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
OKHR. VODOEMOV METODY OCHISTKI VODY, MATER. NAUCH.-TEKH. SOVESHCH.		X	
OSMOLOZAGOTOVKI, MATER. SOVESHCH. KOMPLEKS. MEKH. OSMOLOZAGOTOVOK	X		
PAP. WILKENS GAS CHROMATOGR. SYMP. 3RD		X	
PARAMAGN. REZONANS, DOKL. SOVESHCH.	X		
PEREDOVYE METODY KHIM. TEKHNOL. KONTR. PROIZVOD., TR. VSES. KONF. RAB. MET. KHIM. PROM. SOTRUDNIKOV VUZOV	X		
PERERAB. PLAST. MASS, TR. VSES. SOVESHCH. PERERAB. PRIMEN. PLAST. MASS NAR. KHOZ., 1ST	X		
PERSPEKT. RAZV. KERAM. PROM. SIB. DAL'NEGO VOSTOKA, MATER. SOVESHCH.	X		
PERSPEKT. RAZV. LESOKHIM. PROM. UKR. SSR, MATER. NAUCH.-PROIZVOD. SOVESHCH.	X		
PERSPEKT. RAZV. OSVOENIYA SYR'EVOI BAZY APATITOVOI PROM. KOL'SK. POLUOSTROVE, MATER. SOVESHCH.	X		
PERSPEKT. ZAKL. VYSK. DREVA, PRACE		X	
PHENOLICS NORM. DIS. FRUITS VEG., PROC. SYMP., 4TH		X	
PODZEMN. VODY, IKH ISPOL'Z. OKHR., MATER. NAUCH.-PRAKT. KONF., 2ND	X		
POKROKY PRASKOVE MET., SB. REF. KONF.		X	
POLUCH. IZDELII ZHIDK. METAL. USKOR. KRIST., DOKL. NAUCH.-TEKH. KONF., 2ND	X		
POLUCH. PRIMEN. BAKT. UDOBR., TR. SOVESHCH.	X		
POLZUCHEST DLITEL'NAYA PROCH., TR. VSES. SOVESHCH.	X		
POVERKH. KONTAKT. YAVLENIYA POLUPROV., DOKL. MEZHVUZ. KONF.	X		
PRIB. PROM. KONTR. SREDSTVA AVTOMAT., DOKL. SOOBSHCH. NAUCH.-TEKH. KONF.	X		
PRIMEN. AMMIACHNOI VODY UDOBR. SEL'SKOKHOZ. KUL'T., MATER. KONF.	X		
PRIMEN. ANTIBIOT. ZHIVOTNOVOD., MATER. SOVESHCH.	X		
PRIMEN. GERBITS. STIMULYATOROV ROSTA RAST., MATER. BELORUSS. RESPUB. NAUCH. KONF., 1ST	X		
PRIMEN. SBORNOGO ZHELEZOBETONA ZHILISHCHNOM STROIT., TR. MEZHVUZ. NAUCH. SOVESHCH.	X		
PRIMEN. UL'TRAZVUKOVYKH KOLEBANII ISSLED. SVOISTV, KONTR. KACH. OBRAB. METAL. SPLAVOV, DOKL. SOOBSHCH., KONF.	X		
PRIMEN. VYSOKOKALORIINOGO GAZA MARTENOVSKOM PROIZVOD., MATER. NAUCH.-TEKH. KONF.	X		
PRIR. OCHAGOVOST ZARAZNYKH BOLEZ. KAZ., TR. KONF.		X	
PRISADKI MASLAM, TR. VSES. NAUCH.-TEKH. SOVESHCH., 2ND	X		
PROBL. INTENSIF. TEKHNOL. PROTSESSOV MYAS. MOLOCH. PROM., DOKL. MEZHVUZ. NAUCH.-TEKH. KONF.	X		
PROBL. KOMPENS., EKSP. TER. LUCHEVOI BOLEZ., TR. VSES. KONF. PATOFIZIOL., 2ND	X		
PROBL. KOMPLEKS. ISPOL'Z. MINER. BOGATSTV KARA-BOGAZ-GOLA, ITOGI RAB. OB'EDIN. SESS.	X		
PROBL. PARAZITOL., TR. NAUCH. KONF. PARAZITOL. UKR. SSR, 4TH	X		
PROBL. PERERAB. VYSOKOSERNISTYKH NEFTEI, MATER. OTRASLEVOI KONF., 1ST	X		
PROBL. RAZV. TSELLYUL.-BUM., GIDROLIZ. LESOKHIM. PROM., MATER. VSES. NAUCH.-TEKH. KONF., 1ST	X		
PROBOI DIELEK. POLUPROV., SB. DOKL. MEZHVUZ. KONF., 4TH	X		
PROC. CONGR. ASIAN PAC. SOC. HEMATOL., 2ND	X		
PROC. NUCL. PHYS. SOLID STATE PHYS. SYMP., 8TH	X		
PROC. U. N. INT. CONF. PEACEFUL USES AT. ENERGY, 2ND		X	
PROC., INT. CONGR. HYG. PREV. MED., 3RD		X	
PROD. FINISH. CORROS. CONTR., PERA (PROD. ENG. RES. ASS.) CONF. EXHIB., CONF. MANUAL	X		
PROIZVOD. BENZOLA, MATER. VSES. NAUCH.-TEKH. SOVESHCH.		X	
PROIZVOD. ISPOL'Z. UGLERODISTYKH VOSSTANOV. BRIKET. SHIKHTY, MATER. VSES. SOVESHCH.	X		
PROIZVOD. KONDENS. BUM., MATER. VSES. NAUCH.-TEKH. SOVESHCH.	X		
PROIZVOD. NOV. VIDOV PROD. SPIRT. PROM., MATER. VSES. NAUCH.-TEKH. KONF. SPIRT. PROM.	X		
PROIZVOD. PRIMEN. UDOBR. TORF. OSN., SB. DOKL. VSES. NAUCH.-TEKH. SOVESHCH.	X		

CONFERENCE PROCEEDINGS VOLUMES LISTED IN ACCESS WITHOUT LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS		INTERLIBRARY LOAN REQUESTS
	YES	NO	
PROIZVOD. STROIT. IZDELII PLASTMASS, MATER. KONF. PRIMEN. PLASTMASS STROIT.	X		
PROM. PRIMEN. UL'TRAZVUKA, TR. VSES. MEZHVUZ. KONF.	X		
PROM. TOKSIKOL., DOKL. SEKTS. PROM. TOKSIKOL., YUBILEINAYA SESS.		X	
PROMYVOCHNYE RASTVORY BUREN. SKVAZHIN, TR. MEZHRESPUB. SOVESHCH.	X		
PUTI DAL'NEISHEGO SOVERSH. TEKHNOL. PROIZVOD. KERAM. STENOVYKH KROVEL'NYKH MATER., MATER. SOVESHCH.	X		
PUTI IZUCH. GIDROMETEOROL. REZHIMA OSVOENIYA AKVATORII NEFT. PROM. KASP. MORYA, TR. NAUCH. KONF.	X		
PUTI RAZV. GAZOV. PROM. SSSR, MATER. VSES. SOVESHCH.	X		
PUTI SIN. IZYSKANIYA PROTIVOOPUKHOLEVYKH PREP., TR. SIMP. KHIM. PROTIVOOPUKHOLEVYKH VESHCHESTV	X		
PUTI SIN. IZYSKANIYA PROTIVOOPUKHOLEVYKH PREP., TR. SIMP. KHIM. PROTIVOOPUKHOLEVYKH VESHCHESTV, 2ND	X		
RADIOACTIVE CONTAM. WORKERS, PROC. INT. SYMP.		X	
RADIOSPEKTROSK. TVERD. TELA, DOKL. VSES. SOVESHCH.	X		
RAPP. NORD. KORROSJONSMOETE, 3RD		X	
RASTVORENIE VYSHCHELACHIVANIE GORN. POROD., SB. TR. SOVESHCH., 1ST	X		
RAZDELENIE BLIZKIKH SVOISTVAM REDK. METAL., DOKL., MEZHVUZ. KONF.	X		
RAZV. LITEINOGO PROIZVOD., TR. VSES. KONF. LITEISHCHIKOV, 17TH		X	
RAZV. VAGRANOCHNOGO PROTSESSA, TR. VSES. KONF., 3RD	X		
REP. PROC. SYMP. LAC LAC PROD.	X		
REPROGR., BER. INT. KONGR., 1ST		X	
REUNION PROD. PESQ., ACTAS		X	
REUNION PROD. PESQ., 5TH	X		
ROSTOVYE VESHCHESTVA IKH ROL PROTSESSAKH ROSTA RAZV. RAST., MATER. KOLLOK. MOLODYKH FIZIOL. RAST.	X		
SANIT. TEKH., DOKL. NAUCH. KONF., LENINGRAD. INZH.-STROIT. INST., 21ST	X		
SB. CUKROV.-REPARSKE KONF. PRAZE		X	
SB. DOKL. NAUCH. KONF. ZASHCH. RAST..	X		
SB. DOKL. NAUCH. KONF., TALLIN. NAUCH.-ISSLED. INST. EPIDEMIOL. MIKROBIOL. GIG., 5TH	X		
SB. DOKL. NAUCH. KONF., TALLIN. NAUCH.-ISSLED. INST. EPIDEMIOL., MIKROBIOL. GIG., 2ND	X		
SB. DOKL. NAUCH. KONF., TALLIN. NAUCH.-ISSLED. INST. EPIDEMIOL., MIKROBIOL. GIG., 3RD	X		
SB. MATER. GEOL. KRASNOYARSK. KRAYA, MATER. SOVESHCH.		X	
SB. RAB. NAUCH. KONF. PROTOZOOL. PROBL., POSVYASHCH. 90-LETIYU DNYA ROZHD. PROFESSORA V. L. YAKIMOVA		X	
SB. RAB. NAUCH. SESS., GRODNENSKII GOS. MED. INST., 2ND	X		
SB. STATEI MEZHDUNAR. KONGR. POCHVOVED., 8TH	X		
SB. TR. SUD. MED. SUD. KHIM., MATER. SOVESHCH.	X		
SB. TR. VSES. KONF. SUD. MED., 4TH	X		
SEMIN. VEG. TANNINS, PAP. SEMIN.	X		
SHLAKI STROIT., TR. KOORD. SOVESHCH. PERERAB. ISPOL'Z. MET. SHLAKOV STROIT.	X		
SILIKOZ BOR'BA NIM, DOKL. RESPUB. KONF.	X		
SILUMINE ENERG., KAUNO POLITECH. INST., MOKSLINES-TECH. KONF. DARB., 14TH	X		
SIMP. VLIYANIE PSIKHOTROPNYKH PREP. VYSSH. NERV. DEYATEL., DOKL.	X		
SIMP. SOEDIN. TKANI, MATER.	X		
SOUTHWEST FERT. TECHNOL. CONF., PROC.	X		
SOVERSH. KONSTR. TIPOV IND. STROIT. AVTO. DOROG, DOKL. MEZHVUZ. KONF.	X		
SOVERSH. TEKH. TEKHNOL. BUREN. NEFT GAZ, MATER. VSEROSS. SOVESHCH.	X		
SOVESHCH. LES. POCHVOVED. INST. LESA AKAD. NAUK UKR. SSR, TEZISY DOKL.	X		
SOVESHCH. VYAZKOSTI ZHIDK. KOLLOID. RASTVOROV, DOKL.		X	
SOVREM. DANNYE LECH. PRIMEN. VITAM., RAB. VSES. SOVESHCH., 4TH	X		

CONFERENCE PROCEEDINGS VOLUMES LISTED IN ACCESS WITHOUT LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
STAUBLUNGENERKRANKUNGEN, BER. ARBEITSMED. TAG.	X		
STR. FIZ. SVOISTVA VESHCHESTVA ZHIDK. SOSTOYANII, MATER. SOVESHCH., 4TH	X		
STROIT. MATER. KHIM., DOKL. NAUCH. KONF. LENINGRAD. INZH.-STROIT. INST., 21ST	X		
STRUKT., PROCH. DEFORM. BETONOV, MATER. KOORD. SOVESHCH., 1ST	X		
STRUZHECHNYE PLITY SVYAZUYUSHCHIE MATER., TR. VSES. KONF.	X		
STSINTILL. STSINTILL. MATER., MATER. KOORD. SOVESHCH., 2ND	X		
SUSHKA PISHCH. PROM., VSES. NAUCH.-TEKH. SOVESHCH., SEKTS. PISHCH. PROM.	X		
SUSHKA UVLAZHNENIE STROIT. MATER. KONSTR., VSES. SOVESHCH., SEKTS. STROIT. PROM. ZHILYKH ZDANII	X		
SYMP. ADVAN. GAS-COOLED REACTOR, PAP.		X	
SYMP. ARBEITSGRUPPE NUKLEARMED. MED.-WISS. GES. ROENTGENOL. DDR, VORTR., 3RD	X		
SYMP. HYDROCARBON HIGH POLYM.	X		
SYMP. KLEUR STRUCT. ORG. VERBINDINGEN, VERH.	X		
SYMP. RADIOISOTOP. CHEM.	X		
SYMP. SULFAMIC ACID ITS ELECTROMET. APPL.	X		
SYMP. SYN. HETEROCYCL. COMPOUNDS PHYSIOL. INTEREST, PROC.	X		
SYMP. UTIL. BY-PROD. LEATHER IND., TECH. PAP.	X		
TEKHNOL. FASONNOGO LIT'YA SPLAVOV TSVET. METAL., TR. VSES. SOVESHCH.	X		
TEKST. ODOS TECHNOL., KAUNO POLITECH. INST., JUBILIEJINES MOKSLINES-TECH. KONF., DARB., 15TH	X		
TEKST. ODOS TECHNOL., KAUNO POLITECH. INST., MOKSLINES-TECH. KONF., DARB., 14TH	X		
TEOR. PRAKT. POLYAROGR. ANAL., MATER. VSES. SOVESHCH., 1ST	X		
TEZISY DOKL. VSES. KONF. ELEKTRODNOMU PROIZVOD.	X		
TEZISY DOKL. VSES. SOVESHCH. MIKROELEM., 3RD	X		
THER. TRIAMTEREN, WIENER SYMP.		X	
TIOLOVYE SOEDIN. MED., TR. NAUCH. KONF.	X		
TOKSIKOL. GIG. VYSOKOMOL. SOEDIN. KHIM. SYR'YA, ISPOL'Z. IKH SIN., MATER. KONF., 2ND	X		
TR. DOKUCHAEVSKOI KONF.	X		
TR. GOR. KONF. MOLODYKH NAUCH. RAB., MED. SEKTS., 1ST	X		
TR. KONF. METIZNOMU PROIZVOD.	X		
TR. KONF. MOLODYKH UCH. MOLD., ESTESTV.-TEKH. NAUKI, 3RD	X		
TR. KONF. PERSPEKT. RAZV. VNEDRENIYA KHOLOD. TEKH. NAR. KHOZ. SSSR	X		
TR. KONF. VYSOKOMOL. SOEDIN., ISSLED. OBL. TSELLYUL. EE SPUTNIKOV, 4TH	X		
TR. MEZHVUZ. NAUCH. KONF. PRIMEN. MOL. AKUST. ISSLED. VESHCHESTVA NAR. KHOZ., 1ST	X		
TR. NAUCH. KONF. ASPIR. AKAD. NAUK AZERB. SSR, 5TH	X		
TR. NAUCH. KONF. IZUCH. VNUTR. VODOEMOV. PRIBALTIKI, 5TH	X		
TR. NAUCH. KONF. KIRG. NAUCH.-ISSLED. INST. KURORTOL. FIZIOTER., 3RD	X		
TR. NAUCH. KONF. MOLODYKH UCH. MOLD., BIOL. SEL'SKOKHOZ. NAUKI, 3RD	X		
TR. NAUCH. KONF. MOLODYKH UCH. MOLD., 1ST	X		
TR. NAUCH. KONF. VOP. IZUCH. VOD. RESUR. TATAR. ASSR GIG. VODOSNABZH.	X		
TR. NAUCH. KONF. VOP. PROBL. ZHIRA PITAN., 2ND	X		
TR. NAUCH. KONF. VOZRASTNOI MORFOL., FIZIOL. BIOKHIM., 5TH	X		
TR. NAUCH. KONF. VOZRASTNOI MORFOL., FIZIOL. BIOKHIM., 6TH	X		
TR. NAUCH. SESS. LENINGRAD. NAUCH.-ISSLED. INST. GIG. TR. PROFZABOL., ITOGAM RAB. 1958 GOD	X		
TR. NAUCH. SESS. SOV. KOORD. AKAD. NAUK AZERB. SSR, 1ST	X		
TR. NAUCH.-TEKH. KONF. STUD. VYSSH. UCHEB. ZAVED. BELORUSS. SSR, LATV. SSR, LITOV. SSR EST. SSR, 5TH	X		
TR. OB'EDIN. NAUCH. SESS. OTD. BIOL. NAUK AKAD. NAUK SSSR, OTD. ZEMLED. VASKHNIL, MOLD. FILIAL AKAD. NAUK SSSR		X	

CONFERENCE PROCEEDINGS VOLUMES LISTED IN ACCESS WITHOUT LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS YES	AT CAS NO	INTERLIBRARY LOAN REQUESTS
TR. OTCHETNOI NAUCH. KONF. 1956 GOD, ROSTOV. GOS. MED. INST.	X		
TR. PRIBALT. NAUCH.-TEKH. KONF. SVARKE, 1ST	X		
TR. S'EZDA KHIR. UKR. SSR, 9TH	X		
TR. SESS. AKAD. STROIT. ARKHITEKT. SSSR VOP. ZHILISHCHNOGO STROIT., 2ND	X		
TR. SIMP. PUTI METODY IZYSKANIYA PROTIVORAKOVYKH ANTIBIOT.		X	
TR. SOVESHCH. INZH.-GEOL. SVOISTVAM GORN. POROD METOD. IKH IZUCH.		X	
TR. SOVESHCH. ISPOL'Z. OBOGASHCH. KALIINYKH SOLEI BELORUSS.	X		
TR. SOVESHCH. MET. TSINKA	X		
TR. SOVESHCH. METALLOGEN. ZAPAD. ZABAIKAL'YA, 1ST	X		
TR. SOVESHCH. PODZEMN. VODAM INZH. GEOL. VOST. SIB., 2ND	X		
TR. SOVESHCH. PRIMEN. VIBROPOMOLA PROM. STROIT. MATER.	X		
TR. SOVESHCH. RASSHIR. PROIZVOD. ASSORTIMENTA TEPLOIZOL. AKUST. MATER. IKH PRIMEN. STROIT. DRUGIKH OTRASLYAKH NAR. KHOZ.	X		
TR. SOVESHCH. VOP. VLIYANIYA POVERKH.-AKTIV. VESHCHESTV ELEKTROOSAZHDENIE METAL.	X		
TR. SVERDLOVSK. NAUCH.-TEKH. KONF. MOLODYKH UCH., 1ST	X		
TR. VSES. MEZHVUZ. NAUCH. KONF. VOP. BOR'BY KORROZ.	X		
TR. VSES. MEZHVUZ. NAUCH.-TEKH. KONF. VOP. SIN. PRIMEN. ORG. KRASITELEI	X		
TR. VSES. NAUCH.-TEKH. KONF. OCHISTKE PROM. STOCHNYKH VOD PREDPR. KHIM. VOLOKON, 1ST	X		
TR. VSES. SEMIN. PRIMEN. IZOTOP. KHIM. NEFTEPERERAB. PROM.	X		
TR. VSES. SOVESHCH. KHIM. PERERAB. NEFT. UGLEVODORODOV POLUPROD. SIN. VOLOKON PLAST. MASS	X		
TR. VSES. SOVESHCH. KHIM. TEKHNOL. GLINOZEMA, 3RD	X		
TR. VSES. SOVESHCH. PROVETRIVANIYU RUD. OBESPYLIVANIYU RUD. VOZDUKHA	X		
TR. VSES. SOVESHCH. RAB. VODOROSLEVOI PROM. SSSR, 1ST		X	
TR. VSES. SOVESHCH. TRESHCHINNYM KOLLEKTORAM NEFTI GAZA, 2ND	X		
TSIKLONNYE PLAV. ENERGO-TEKHNOL. PROTSESSY, TR. NAUCH.-TEKH. SOVESHCH.	X		
UGLEVODY UGLEVODNYI OBMEN ZHIVOTN. RAST. ORGANIZMAKH, MATER. KONF.	X		
UL'TRAFIOLET. IZLUCH. SOLNTSA EGO ISPOL'Z. PROFIL. LECH. TSELEI, TR. KONF. BIOL. DEISTVIYU UL'TRAFIOLET. IZLUCH.	X		
UL'TRAFIOLET. IZLUCH., DOKL. SOVESHCH. BIOL. DEISTVIYU UL'TRAFIOLET. IZLUCH., 6TH		X	
UL'TRAZVUK STROIT. TEKH., MATER. SOVESHCH.	X		
ULUCHSHENIE KACH. SOVERSH. PROIZVOD. SMAZ. MASEL, TR. VSES. SOVSHCH. 1963	X		
USE RUBBER ENG., PROC. CONF.	X		
VARMEOFRZINKNINGSTEK. KONF.	X		
VEDUSHCHIE PROBL. VOZRASTNOI FIZIOL. BIOKHIM., TR. VSES. SIMP.	X		
VLAZHNOSTNOE SOSTOYANIE TEPLOFIZ. SVOISTVA VSPUCHENNOGO VERMIKULITA, IZDELII KONSTR. NEGO, MATER. SOVESHCH. PROBL. PRIMEN. VERMIKULITA STROIT.	X		
VLIYANIE NEKOT. FIZ. BIOL. FAKTOROV ORGANIZM, MATER. NAUCH. KONF.	X		
VLIYANIE OROSHENIYA VTORICHNOE ZASOLENIE, KHIM. SOSTAV REZHIM PODZEMN. VOD, TASHKENT. MEZHDUNAR. GIDROGEOL. SIMP.	X		
VLIYANIE VODORODA SLUZHEBNYE SVOISTVA STALI, SB. DOKL., MEZHOBL. NAUCH. TEKH. SEMIN.	X		
VNEDRENIE FERMENT. PREP. NAR. KHOZ., SB. DOKL. VSES. KONF.		X	
VNEDRENIE NOV. TEKH. NAIBOLEE SOVERSH. TEKHNOL. VINODEL. PROM. BELORUSS., MATER. KONF.	X		
VODOSNABZH. KANALIZ., DOKL. NAUCH. KONF., LENINGRAD. INZH.-STROIT. INST., 20TH	X		
VOP. FORM. RASPROSTR. MINER. VOD SSSR, TR. SOVESHCH. KURORTNYKH INST. GIDROGEOL. MINER. VOD	X		

CONFERENCE PROCEEDINGS VOLUMES LISTED IN ACCESS WITHOUT LIBRARY HOLDINGS INCLUDING INDICATION OF STATUS OF CAS LIBRARY HOLDINGS AND FREQUENCY OF OCCURRENCE IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	AT CAS		INTERLIBRARY LOAN REQUESTS
	YES	NO	
VOP. GEOL. NEFTEGAZONOS. ZAPAD. UZB. KARAKALPAKII, TR. VYEZDNOI SESS. OTD. GEOL. NAUK AKAD. NAUK UZB. SSR	X		
VOP. GIG. SELA, SB. DOKL. VSES. KONF., 1ST		X	
VOP. ISPOL'Z. PENTOZANSODERZH. SYR'YA, TR. VSES. SOVESHCH.	X		
VOP. LANDSHAFTOVED., MATER. VSES. SOVESHCH., 6TH	X		
VOP. OBSHCH. PROM. TOKSIKOL., MATER. SIMP.	X		
VOP. OKHR. PRIR. BURYAT., MATER. RESPUB. KONF., 1ST	X		
VOP. PRIMEN. PERLITA STROIT., DOKL. UCHASTNIKOV SOVESHCH.		X	
VOP. PRIMEN. REDK. METAL. SILIKAT. PROM., DOKL. RESPUB. SOVESHCH.	X		
VOP. RATSION. ISPOL'Z. DREV., MATER. MEZHVUZ. NAUCH.-TEKH. KONF.	X		
VOP. SHLAKOPERERAB., DOKL. KONF.	X		
VOP. SOVREM. STROIT. ARKHITEKT., TR. KONF. MOLODYKH UCH.-STROIT., 3RD	X		
VOP. STROIT. LESSOVYKH GRUNTAKH, MATER. VSES. NAUCH. MEZHVUZ. KONF.	X		
VOP. TEOR. DEGAZATSII UGOL. PLASTOV, TR. VSES. NAUCH.-TEKH. SOVESHCH.	X		
VOP. TEOR. SIL'NYKH SLABYKH VZAIMODEISTVII ELEM. CHASTITS, LEKTSII, VESENNEI SHK. TEOR. EKSP. FIZ., 1ST	X		
VOP. ULUCHSHENIYA KACH. SEL'SKOKHOZ. PROD., TR. NAUCH. SESS. UKR. AKAD. SEL'SKOKHOZ. NAUK	X		
VOP. ZASHCH. DREV., DOKL. VSES. NAUCH.-TEKH. KONF., 1ST	X		
WORLD AVIAT. SPACE MED. CONGR., 2ND		X	
ZADACHI PERSPEKT. POISKOVO-RAZVED. RAB. NEFT GAZ ZAPAD. RAIONAKH SREDNEI AZII, MATER. VYEZDNOI SESS.	X		
ZAGADNIENIA CHEM. PRZEROBKI WEGLA, MATER. ZJAZDU NAUK.-TECH.		X	
ZAKONOMER. RAZMESHCHENIYA MESTOROZHD. PLATFORMENNYKH CHEKHLAKH, DOKL. VSES. OB'EDIN. SESS., 2ND	X		
ZASHCH. METALLOKONSTR. MEKH. OBORUDOVANIYA GIDROTEKH. SOORUZHENI KORROZ., MATER. SOVESHCH.	X		
ZHAROSTOIKIE BETON ZHELEZOBETON STROIT., DOKL. SOVESHCH.	X		
ZHAROUPORNYE BETON ZHELEZOBETON STROIT., TR. VSES. SOVESHCH.	X		

APPENDIX 21

List of 850 Serials Containing 50% of the 70,686 Documents Requested on Interlibrary Loan Showing the Number of Requests for Each with the Number that were Filled or Not Filled, the Status of the Entry in ACCESS, and Relationship to Core Serials for Six Scientific and Technical Disciplines

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
Nature	380	360	20	X	X
C. R. Acad. Sci., Paris	310	309	1	X	X
J. Amer. Chem. Soc.	304	292	12	X	X
Amer. Soc. Mech. Eng., Misc. Papers	286	286	0		
Amer. Soc. Mech. Eng., Paper	263	254	9		X
J. Chem. Soc., London	261	239	22	X	X
Phys. Rev.	245	227	18	X	X
Proc. Roy. Soc., Ser. A	243	228	15	X	X
Trans. Amer. Soc. Mech. Eng.	230	223	7	X	
J. Appl. Phys.	224	221	3	X	X
Ann. N. Y. Acad. Sci.	223	203	20	X	X
Ind. Eng. Chem.	222	210	12	X	X
Phil. Mag.	214	202	12	X	X
J. Opt. Soc. Amer.	211	197	14	X	X
Science	190	173	17	X	X
J. Chem. Phys.	180	161	19	X	X
Proc. Roy. Soc., London	168	160	8	X	X
J. Amer. Oil Chem. Soc.	168	159	9	X	X
J. Polym. Sci.	167	143	24	X	X
Dokl. Akad. Nauk SSSR	160	129	31	X	X
J. Biol. Chem.	157	155	2	X	X
J. Acoust. Soc. Amer.	154	145	9	X	X
Proc. Nat. Acad. Sci. U. S.	152	146	6	X	X
J. Electrochem. Soc.	149	127	22	X	X
Anal. Chem.	149	134	15	X	X
Rev. Sci. Instrum.	146	140	6	X	X
J. Phys. Chem.	141	125	16	X	X
Chem. Eng. Progr.	139	129	10	X	X
J. Air Pollut. Contr. Ass.	138	131	7	X	X
Z. Phys.	134	130	4	X	X
J. Appl. Mech.	127	124	3	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
Lancet	126	114	12	X	X
Brit. Med. J.	125	119	6	X	X
Ann. Phys. (Leipzig)	124	114	10	X	X
Trans. Faraday Soc.	123	116	7	X	X
J. Amer. Med. Ass.	123	113	10	X	X
Proc. IRE	120	116	4	X	
Chem. Ber.	113	104	9	X	X
AIChE J.	113	104	9	X	X
Bull. Soc. Chim. Fr.	111	103	8	X	X
Proc. Cambridge Phil. Soc.	110	102	8	X	X
Trans. Amer. Inst. Elec. Eng.	109	101	8	X	
Proc. Inst. Elec. Eng.	108	100	8	X	X
Prod. Eng.	107	97	10	X	X
Z. Anorg. Allg. Chem.	105	103	2	X	X
Astrophys. J.	104	102	2	X	X
J. Sci. Instrum.	103	94	9	X	X
Electronics	103	96	7	X	
Proc. Phys. Soc., London	102	92	10	X	X
Acta Chem. Scand.	100	91	9	X	X
Oil Gas J.	99	95	4		X
J. Amer. Ceram. Soc.	99	91	8	X	X
Physica (Utrect)	98	93	5	X	X
Biochem. J.	95	87	8	X	X
Phys. Status Solidi	93	74	19	X	X
Chem. Eng. (New York)	93	87	6	X	X
Bull. Chem. Soc. Jap.	93	86	7	X	X
Biometrika	92	87	5		
Tetrahedron Lett.	89	84	5	X	X
Engineering (London)	89	82	7	X	
J. Appl. Physiol.	88	82	6	X	X
Chem. Ind. (London)	88	82	6	X	X
Biochim. Biophys. Acta	88	81	7	X	X
Z. Naturforsch.	86	77	9	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
Justus Liebigs Ann. Chem.	85	85	0	X	X
Zh. Fiz. Khim.	85	73	12	X	X
J. Chem. Educ.	85	79	6	X	X
Brit. J. Appl. Phys.	85	76	9	X	X
Z. Phys. Chem. (Frankfurt am Main)	84	70	14	X	X
Proc. Soc. Exp. Biol. Med.	84	78	6	X	X
Spectrochim. Acta	82	74	8	X	X
Sci. Amer.	82	78	4	X	X
Mach. Des.	82	78	4	X	X
Amer. J. Physiol.	82	75	7	X	X
Helv. Chim. Acta	80	69	11	X	X
Recl. Trav. Chim. Pays-Bas	79	78	1	X	X
Electron. Des.	78	78	0		
New Sci.	78	65	13	X	X
Brit. Chem. Eng.	78	77	1	X	X
Can. J. Chem.	76	70	6	X	X
J. Appl. Polym. Sci.	75	64	11	X	X
Kogyo Kagaku Zasshi	74	50	24	X	X
J. Phys. Soc. Jap.	74	64	10	X	X
Collect. Czech. Chem. Commun.	74	67	7	X	X
Makromol. Chem.	73	65	8	X	X
J. Prakt. Chem.	73	68	5	X	X
Bell Syst. Tech. J.	73	69	4	X	X
Ann. Math. Statist.	73	70	3		
AIAA J.	73	62	11	X	X
TAPPI	72	67	5	X	X
Proc. Inst. Mech. Eng.	72	58	14		
Anal. Chim. Acta	72	62	10	X	X
Z. Angew Phys.	71	62	9	X	X
Proc. Amer. Soc. Civil Eng.	71	59	12	X	
Eng. Mining J.	71	63	8	X	
Chem. Eng. Sci.	70	67	3	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS			ENTRY IN ACCESS	SERIAL AT CAS
	TOTAL	FILLED	UNFILLED		
Clin. Chim. Acta	69	61	8	X	X
Gazz. Chim. Ital.	69	62	7	X	X
J. Chromatogr.	69	62	7	X	X
J. Inst. Fuel	69	66	3	X	X
J. Phys. Chem. Solids	69	59	10	X	X
Aust. J. Chem.	68	64	4	X	X
Kolloid Z.	68	64	4	X	X
Phil. Trans. Roy. Soc. London, Ser. A	68	57	11	X	X
Yakugaku Zasshi	68	58	10	X	X
Amer. J. Sci.	67	51	16	X	X
Amer. J. Med.	66	59	7	X	X
Phil. Trans. Roy. Soc. London	66	55	11	X	X
Can. J. Phys.	65	62	3	X	X
J. Clin. Invest.	65	64	1	X	X
J. Gen. Chem. USSR	65	45	20	X	X
Proc. Zool. Soc. London	65	58	7	X	
Analyst (London)	64	59	5	X	X
Corrosion	64	63	1	X	X
Engineer (U. S.)	64	63	1	X	
J. Appl. Chem.	63	55	8	X	X
Chem. Eng. News	62	57	5	X	X
Zh. Prikl. Khim. (Leningrad)	62	44	18	X	X
Ann. Surg.	61	60	1	X	X
Arch. Biochem. Biophys.	61	56	5	X	X
Phys. Lett.	61	46	15	X	X
J. Appl. Chem. USSR	60	56	4	X	X
J. Colloid Sci.	60	55	5	X	X
J. Franklin Inst.	60	54	6	X	X
J. Physiol. (London)	60	57	3	X	X
Mech. Eng.	60	59	1	X	X
Nippon Kagaku Zasshi	60	45	15	X	X
Trans. Soc. Mining Eng. AIME (Amer. Inst. Mining, Met. Petrol. Eng.)	60	57	3	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS			ENTRY IN ACCESS	SERIAL AT CAS
	TOTAL	FILLED	UNFILLED		
Appl. Opt.	59	52	7	X	X
Elec. World	59	57	2	X	
J. Inst. Metals	59	54	5	X	X
Proc. IEEE	59	51	8	X	X
SPE (Soc. Plast. Eng.) J.	59	53	6	X	X
Z. Elektrochem.	59	56	3	X	X
Amer. J. Obstet. Gynecol.	58	57	1	X	X
Amer. Mineral.	58	56	2	X	X
Anat. Rec.	58	52	6	X	X
Can. Med. Ass. J.	58	55	3	X	X
Heat., Piping Air Cond.	58	57	1	X	X
JETP Lett.	58	46	12	X	X
Mod. Plast.	58	56	2	X	X
Trans. AIME	58	55	3	X	X
Electron. Eng.	58	58	0	X	X
Fed. Proc., Fed. Amer. Soc. Exp. Biol.	57	51	6	X	X
J. Amer. Water Works Ass.	57	52	5	X	X
Nuovo Cimento	57	49	8	X	X
Talanta	57	52	5	X	X
Zh. Eksp. Teor. Fiz.	57	23	34	X	X
Contr. Eng.	56	44	8	X	X
Iron Age	56	49	7	X	X
J. Indian Chem. Soc.	56	49	7	X	X
J. Lab. Clin. Med.	56	53	3	X	X
J. Water Pollut. Contr. Med.	56	55	1	X	
Acta Crystallogr.	55	50	5	X	X
J. Ass. Offic. Agr. Chem.	55	52	3	X	X
Comput. J.	55	55	0		X
Curr. Sci.	54	41	13	X	X
Wire Wire Prod.	54	49	5	X	X
Ber. Deut. Chem. Ges.	53	44	9	X	X
Chem. Rev.	53	43	10	X	X
J. Iron Steel Inst., London	53	47	6	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
J. Res. Nat. Bur. Stand.	53	52	1	X	X
Monatsh. Chem.	53	45	8	X	X
Solid-State Electron.	53	45	8	X	X
Text. Res. J.	53	49	4	X	X
Angew. Chem.	52	46	6	X	X
Chem. Tech. (Leipzig)	52	44	8	X	X
J. Pharmacol. Exp. Ther.	52	51	1	X	X
Amer. Midl. Natur.	51	49	2	X	X
Machinery (London)	51	49	2	X	
Trans. Amer. Soc. Civil Eng.	51	46	5	X	
Zool. Zh.	51	42	9	X	X
Fresenius' Z. Anal. Chem.	50	48	2	X	X
J. Bacteriol.	50	49	1	X	X
U. S. Geol. Surv., Prof. Pap.	50	50	0	X	X
Amer. Ind. Hyg. Ass., J.	49	42	7	X	X
Chem. Ing. Tech.	49	49	0	X	X
Jap. J. Appl. Phys.	49	32	17	X	X
J. Org. Chem.	49	45	4	X	X
Naturwissenschaften	49	39	10	X	X
Z. Metallk.	49	42	7	X	
J. Chem. Soc. Jap., Ind. Chem. Sect.	49	49	0	X	X
Chem. Process Eng.	48	41	7	X	X
Diabetes	48	48	0	X	X
J. Biochem. (Tokyo)	48	40	8	X	X
J. Invest. Dermatol.	48	44	4	X	X
J. Metals	48	46	2	X	X
Plating	48	45	3	X	X
Soc. Autom. Eng., Pap.	48	48	0		
Biometrics	47	41	6	X	X
Ceram. Ind. (Chicago)	47	44	3	X	X
N. Engl. J. Med.	47	42	5	X	X
Trans. Amer. Inst. Elec. Eng., Part 3	47	43	4	X	X
Technometrics	47	47	0		

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
Biochem. Biophys. Res. Commun.	46	41	5	X	X
Electro-Technol. (New York)	46	34	12	X	
J. Aeronaut. Sci.	46	40	6	X	
J. Dent. Res.	46	45	1	X	X
Surg., Gynecol. Obstet.	46	46	0	X	X
J. Ind. Eng.	46	46	0		
Psychol. Rev.	46	46	0		
Amer. Dyest. Rep.	45	43	2	X	X
Amer. J. Pub. Health	45	41	4	X	X
Angew. Chem., Int. Ed. Engl.	45	37	8	X	X
Clin. Chem.	45	42	3	X	X
J. Immunol.	45	43	2	X	X
J. Nerv. Ment. Dis.	45	43	2	X	X
J. Soc. Ind. Appl. Math.	45	42	3	X	
Metal Progr.	45	45	0	X	X
Radio Electron. Eng.	45	42	3	X	X
Trans. N. Y. Acad. Sci.	45	38	7	X	X
Ind. Qual. Contr.	45	45	0		
Acta Pathol. Microbiol. Scand.	44	43	1	X	X
Ann. Intern. Med.	44	43	1	X	X
Ark. Kemi	44	39	5	X	X
Ceram. Age	44	39	5	X	X
Chem. Eng. Progr., Symp. Ser.	44	38	6	X	X
Commun. ACM.	44	36	8		X
Diss. Abstr.	44	31	13	X	X
J. Gen. Microbiol.	44	40	4	X	X
J. Mammal.	44	42	2	X	
Mikrochim. Acta	44	41	3	X	X
Proc. Roy. Soc., Ser. B	44	38	6	X	X
Quart. J. Microsc. Sci.	44	41	3	X	
Bull. Amer. Ass. Petrol. Geol.	43	39	4	X	X
Electron. Lett.	43	38	5	X	X
Experientia	43	39	4	X	X
J. Geophys. Res.	43	40	3	X	X
J. Petrol. Technol.	43	41	2	X	X
Med. J. Aust.	43	42	1	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS			ENTRY IN ACCESS	SERIAL AT CAS
	TOTAL	FILLED	UNFILLED		
J. Amer. Statist. Ass.	43	43	0		
J. Mech. Eng. Sci.	43	43	0		
Nautilus	43	43	0		
Trans. Met. Soc. AIME (Amer. Inst. Mining, Met., Petrol. Eng.)	43	43	0	X	X
Wireless World	43	43	0		
J. Ass. Comput. Mach.	42	38	4		
J. Clin. Pathol.	42	36	6	X	X
J. Mol. Biol.	42	40	2	X	X
Mon. Notic. Roy. Astron. Soc.	42	38	4	X	X
Brain	41	39	2	X	X
Geophysics	41	37	4	X	
Hydrocarbon Process. Petrol. Refiner	41	36	5	X	
J. Mar. Biol. Ass. U. K.	41	37	4	X	X
Pap. Trade J.	41	36	5	X	X
Power	41	39	2	X	X
Proc. Roy. Soc. Med.	41	39	2	X	X
U. S. At. Energy Comm.	41	37	4	X	X
Ann. Chim. Phys.	40	32	8	X	X
Ann. Chim. (Rome)	40	36	4	X	X
ASLE (Amer. Soc. Lubric. Eng.), Trans.	40	35	5		X
J. Exp. Psychol.	40	38	2	X	
Metallurgia	40	34	6	X	X
Philips Res. Rep.	40	37	3	X	X
Russ. J. Phys. Chem.	40	25	15	X	
Steel	40	36	4		
Amer. J. Clin. Pathol.	39	38	1	X	X
Drug. Cosmet. Ind.	39	37	2	X	X
J. Basic Eng.	39	39	0	X	X
J. Exp. Med.	39	37	2	X	X
J. Inorg. Nucl. Chem.	39	36	3	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
J. Phys. Radium	39	36	3	X	X
J. Soc. Cosmet. Chem.	39	38	1	X	X
J. Urol.	39	38	1	X	X
Nucl. Instrum. Methods	39	38	1	X	X
Phys. Z.	39	33	6	X	X
Poultry Sci.	39	38	1	X	X
Radio Eng. Electron. Phys. (USSR)	39	35	4	X	
Z. Anorg. Chem.	39	37	2	X	X
Zh. Obshch. Khim.	39	30	9	X	X
Amer. J. Surg.	38	37	1	X	X
Anal. Biochem.	38	36	2	X	X
Arch. Surb. (Chicago)	38	33	5	X	X
Electrochim. Acta	38	36	2	X	X
Indian J. Pure Appl. Phys.	38	27	11	X	X
J. Agr. Food Chem.	38	36	2	X	X
J. Chim. Phys.	38	34	4	X	X
J. Neurophysiol.	38	36	2	X	X
Proc. Jap. Acad.	38	28	10	X	X
Rev. Mod. Phys.	38	36	2	X	X
Z. Angew. Math. Mech.	38	35	3	X	X
Ann. Math.	38	38	0		
Proc. Joint Comput. Conf.	38	38	0		X
Amer. J. Med. Sci.	37	37	0	X	X
Appl. Phys. Lett.	37	32	5	X	X
Bull. Acad. Sci. USSR, Phys. Ser.	37	15	22	X	X
Carnegie Inst. Wash. Publ.	37	27	10	X	X
Chem. Listy	37	27	10	X	X
Eng. News Rec.	37	33	4	X	
Int. J. Heat Mass Transfer	37	34	3	X	X
J. Eng. Power	37	36	1	X	X
J. Fluid Mech.	37	32	5	X	X
J. Heat Transfer	37	36	1	X	X

ABBREVIATED TITLE	INTERLIBRARY	LOANS		ENTRY IN ACCESS	SERIAL AT CAS
	TOTAL	FILLED	UNFILLED		
J. Infec. Dis.	37	35	2	X	X
Percept. Motor Skills	37	37	0		
Proc. Phys. Soc., London, Sect. B	37	34	3	X	X
Rubber Chem. Technol.	37	31	6	X	X
Acta Chim. (Budapest)	36	32	4	X	X
Acta Physiol. Scand.	36	32	4	X	X
Arch. Intern. Med.	36	35	1	X	X
Can. J. Chem. Eng.	36	34	2	X	X
Chem. Age India	36	21	15	X	X
Civil Eng. (London)	36	34	2		
Indian J. Chem.	36	26	10	X	X
J. Comp. Neurol.	36	35	1	X	
Machinery (New York)	36	29	7	X	
Petrol. Refiner	36	31	5	X	
Scand. J. Clin. Lab. Invest.	36	35	1	X	X
Trans. Amer. Math. Soc.	36	36	0		
Vysokomol. Soedin.	36	30	6	X	X
Engineer	35	34	1	X	X
Glass Ind.	35	26	9	X	X
Ind. Chem.	35	33	2	X	
Iron Steel Eng.	35	33	2	X	X
J. Mar. Res. (Sears Found. Mar. Res.)	35	33	2	X	X
J. SMPTE (Soc. Motion Pict. Telev. Eng.)	35	29	6	X	X
Manage Sci.	35	35	0		
Oper. Res.	35	28	7	X	X
Phys. Fluids	35	31	4	X	X
Tetrahedron	35	30	5	X	X
Trans. Amer. Geophys. Union	35	32	3		
Z. Kristallogr., Kristallgeometrie, Kristallphys., Kristallchemie	35	30	5	X	X
Amer. Heart J.	34	31	3	X	X
Amer. Soc. Test. Mater., Spec. Tech. Publ.	34	22	12	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS			ENTRY IN ACCESS	SERIAL AT CAS
	TOTAL	FILLED	UNFILLED		
Arch. Ophthalmol.	34	32	2	X	X
Brit. Weld. J.	34	31	3	X	
Bull. Seismol. Soc. Amer.	34	32	2		
Electroencephalogr. Clin. Neurophysiol.	34	30	4	X	
Exp. Cell Res.	34	31	3	X	X
IRE (Inst. Radio Eng.) Trans. Inform. Theory	34	32	2		X
J. Appl. Bacteriol.	34	30	4	X	X
J. Chem. Eng. Data	34	34	0	X	X
J. Chem. Soc. Jap., Pure Chem. Sect.	34	34	0	X	X
J. Soc. Dyers Colour.	34	29	5	X	X
Microwave J.	34	34	0		
Philips Tech. Rev.	34	31	3	X	X
Phys. Rev. Lett.	34	33	1	X	X
Psychosom. Med.	34	34	0	X	X
Rubber Plast. Age	34	23	11	X	X
Sheet Metal Ind.	34	28	6	X	X
Surgery	34	32	2	X	
Trans. Amer. Inst. Elec. Eng., Part 2	34	34	0		
Z. Physiol. Chem.	34	31	3	X	X
Int. J. Psycho-Anal.	34	34	0		
Acta Phys. Pol.	33	27	6	X	X
Amer. J. Phys.	33	29	4	X	X
Biochem. Z.	33	32	1	X	X
Brit. Plast.	33	29	4	X	X
Can. Mining Met. Bull.	33	29	4		
Geol. Soc. Amer., Bull.	33	33	0	X	X
IEEE Int. Conv. Rec.	33	27	6	X	
IRE Trans. Electron. Comput.	33	32	1	X	X
J. Comp. Physiol. Psychol.	33	32	1	X	X
Laryngoscope	33	31	2	X	X
Plast. Inst., Trans. J.	33	31	2	X	X
Proc. Indian Acad. Sci., Sect. A	33	30	3		X
RCA Rev.	33	24	9	X	X
S. Med. J.	33	32	1	X	X
Sov. Phys. Solid State	33	28	5	X	X
Zool. Anz.	33	27	6	X	X

ABBREVIATION TITLE	INTERLIBRARY LOANS TOTAL	 FILLED	 UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
Amer. J. Ophthalmol.	32	30	2	X	X
Biol. Bull.	32	32	0	X	X
Clin. Sci.	32	32	0	X	X
Elec. Eng. Jap.	32	32	0		
Indian J. Technol.	32	27	5	X	X
IRE Trans.	32	32	0	X	X
J. Cell. Comp. Physiol.	32	31	1	X	X
J. Inst. Elec. Eng.	32	30	2	X	
J. Pharm. Sci.	32	25	7	X	X
Khim. Prom. (Moscow)	32	24	8	X	X
N. Y. Times	32	32	0	X	X
Pediatrics	32	31	1	X	X
Plant Eng.	32	26	6	X	X
Polym. Sci. USSR	32	18	14	X	
Sitzungsber. Akad. Wiss. Wien, Math.-Naturwiss. Kl.	32	32	0	X	
Trans. Electrochem. Soc.	32	29	3	X	X
Virology	32	32	0	X	X
Zh. Tekh. Fiz.	32	24	8	X	X
Acta Med. Scand.	31	28	3	X	X
Acta Physicochimica U.R.S.S.	31	27	4		
Amer. Mach.	31	28	3	X	
Can. Entomol.	31	30	1	X	X
Chem. Commun.	31	24	7	X	X
Ecology	31	31	0	X	X
Erdoel Kohle	31	31	0	X	X
Food Technol. (Chicago)	31	28	3	X	X
Forest Prod. J.	31	28	3	X	X
Fuel	31	30	1	X	X
IEEE Trans. Power App. Syst.	31	27	4	X	X
IRE Trans. Circuit Theory	31	30	1	X	X
J. Amer. Concr. Inst.	31	25	6	X	X
J. Gen. Physiol.	31	30	1	X	X
J. Less Common Metals	31	29	2	X	X
J. Meteorol.	31	29	2	X	
J. Occup. Med.	31	30	1	X	X
J. Roy. Aeronaut. Soc.	31	30	1	X	
Nat. Adv. Comm. Aeronaut., Tech. Notes	31	29	2	X	X
N. Y. State J. Med.	31	31	0		X
Photogr. Sci. Eng.	31	29	2	X	X

ABBREVIATION TITLE	INTERLIBRARY LOANS			ENTRY IN ACCESS	SERIAL AT CAS
	TOTAL	FILLED	UNFILLED		
Proc. Inst. Civil Eng.	31	28	3	X	
Proc. London Math. Soc.	31	31	0		
Rev. Pure Appl. Chem.	31	23	8	X	X
Simulation	31	31	0		
Trans. Amer. Inst. Chem. Eng.	31	26	5	X	X
Appl. Sci. Res., Sect. A	30	25	5	X	
Chem. Pharm. Bull. (Tokyo)	30	27	3	X	X
Electro-Technol. (New York)	30	18	12	X	
Feedstuffs	30	30	0	X	X
Instrum. Contr. Syst.	30	26	4	X	X
Instrum. Exp. Tech. (USSR) (Engl. Transl. Prib. Tekh. Eksp.)	30	20	10	X	
Int. J. Mech. Sci.	30	30	0	X	
J. Anat.	30	28	2	X	X
J. Econ. Entomol.	30	27	3	X	X
Med. Welt	30	24	6	X	X
Oil, Paint Drug Rep.	30	20	10	X	X
Physiol. Rev.	30	28	2	X	X
Przem. Chem.	30	20	10	X	X
Quart. J. Roy. Meteorol. Soc.	30	29	1	X	
Amer. J. Anat.	29	28	1	X	
Amer. J. Pathol.	29	26	3	X	X
Amer. Math. Mon.	29	29	0		
Ann. Mag. Nat. Hist., Incl. Zool., Bot. Geol.	29	29	0		
Appl. Microbiol.	29	27	2	X	X
Arch. Environ. Health	29	27	2	X	X
Arch. Gen. Psychiat.	29	28	1	X	X
Arzneim. Forsch.	29	28	1	X	X
Automat. Remote Contr. (USSR) (Engl. Trans. Sov. J. Avtomat. Telemekh.)	29	26	3	X	
Bull. Amer. Meteorol. Soc.	29	25	4	X	
Bull. Mus. Nat. Hist. Natur. (Paris)	29	28	1		
Chem. Zentralbl.	29	23	6	X	X
Chim. Anal. (Paris)	29	23	6	X	X
Dir. Curr.	29	29	0		
Elec. Eng. (Amer. Inst. Elec. Eng.)	29	27	2	X	

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
J. Electroanal. Chem.	29	24	5	X	X
J. Morphol.	29	27	2	X	
Metal Finish.	29	24	5	X	X
Mining Eng. (New York)	29	28	1	X	
Proc. Amer. Phil. Soc.	29	26	3	X	X
Proc. Joint Automat. Contr. Conf.	29	29	0		X
Pure Appl. Chem.	29	25	4	X	X
Amer. J. Dis. Child.	28	27	1	X	X
Ann. Chim. (Paris)	28	25	3	X	X
ASHRAE (Amer. Soc. Heat., Refrig., Air Cond. Eng.) J.	28	27	1	X	X
Cancer Res.	28	27	1	X	X
J. Exp. Biol.	28	27	1	X	X
J. Lipid Res.	28	24	4	X	X
J. Pharm. Pharmacol.	28	26	2	X	X
J. Sci. Food Agr.	28	22	6	X	X
Kunststoffe	28	23	5	X	X
Paint Varn. Prod.	28	19	9	X	X
Soil Sci. Soc. Amer., Proc.	28	25	3	X	X
Trans. Amer. Inst. Elec. Eng., Part 1	28	27	1	X	
Vacuum	28	28	0		X
Z. Phys. Chem. (Leipzig)	28	25	3	X	X
Amer. J. Clin. Nutr.	27	24	3	X	X
Amer. Surg.	27	27	0	X	
An. Soc. Espan. Fis. Quim.	27	23	4	X	X
Arch. Dermatol.	27	23	4	X	X
Arch. Int. Pharmacodyn. Ther.	27	25	2	X	X
Bot. Mag. (Tokyo)	27	27	0	X	X
Bull. JSME (Jap. Soc. Mech. Eng.)	27	25	2	X	X
Bull. WHO	27	23	4	X	X
Calif. Med.	27	27	0	X	X
Can. J. Microbiol.	27	23	4	X	X
Cereb. Palsy Rev.	27	27	0		
Circ. Res.	27	27	0	X	X
Circulation	27	25	2	X	X
Collect. Pap., Amer. Soc. Tool Mfg. Eng.	27	22	5		
Entomol. News	27	27	0	X	
IRE Trans. Microwave Theory Tech.	27	26	1	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	INTERLIBRARY LOANS FILLED	INTERLIBRARY LOANS UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
ISA J.	27	24	3	X	X
J. Aerosp. Sci.	27	26	1	X	
J. Bone Joint Surg., Amer. Vol.	27	25	2	X	X
J. Eng. Ind.	27	26	1	X	X
J. Eng. Mech. Div., Proc. Amer. Soc. Civil Eng.	27	25	2		
J. Histochem. Cytochem.	27	26	1	X	X
J. Inst. Eng., Calcutta	27	24	3	X	X
J. Mech. Phys. Solids	27	26	1	X	X
J. Nat. Cancer Inst.	27	25	2	X	X
J. Paint Technol.	27	19	8	X	X
J. Pediat.	27	26	1	X	X
J. Soc. Chem. Ind., London	27	24	3	X	X
J. Text. Anst.	27	25	2	X	X
Kobunshi Kagaku	27	26	1	X	X
Lab. Pract.	27	25	2	X	X
Mfg. Chem.	27	26	1	X	
Nippon Kikai Gakkai Rombunshu	27	14	13	X	
Phil. Trans. Roy. Soc. London, Ser. B	27	19	8	X	X
Proc. Acad. Natur. Sci. Philadelphia	27	26	1	X	
Quart. J. Mech. Appl. Math.	27	27	0		
Quart J. Med.	27	24	3	X	X
Rubber Age (New York)	27	27	0	X	X
U. S. Bur. Mines, Rep. Invest.	27	22	5	X	X
Zoologica	27	26	1	X	
Acta Met.	26	23	3	X	X
Aeronaut. Res. Counc., Rep. Memo. (London)	26	26	0		
Amer. J. Psychiat.	26	25	1	X	X
Ann. Rheum. Dis.	26	23	3	X	X
Appl. Spectrosc.	26	23	3	X	X
Arch. Dis. Childhood	26	25	1	X	X
Arch. Pathol.	26	22	4	X	X
Biochem. Pharmacol.	26	25	1	X	X
Brown Boveri Rev.	26	26	0	X	X
Chimia	26	22	4	X	X
Combustion	26	24	2	X	X
Electron. News	26	26	0		
IEEE Trans. Nucl. Sci.	26	26	0	X	X

ABBREVIATION TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
IRE (Inst. Radio Eng.) Trans. Eng. Manage.	26	21	5		X
J. Amer. Diet. Ass.	26	26	0	X	X
J. Brit. Inst. Radio Eng.	26	21	5	X	X
J. Math. Phys.	26	24	2	X	X
J. Pathol. Bacteriol.	26	24	2	X	X
J. Roy. Statist. Soc., Ser. B	26	26	0		
Plant Cell Physiol.	26	23	3	X	X
Plant Physiol.	26	25	1	X	X
Practitioner	26	25	1	X	X
Sci. Progr. (London)	26	24	2	X	X
Trans., Amer. Soc. Artif. Intern. Organs	26	26	0	X	X
Trans. Proc. Roy. Soc. S. Aust.	26	25	1	X	
Air Eng.	25	20	5	X	
Amer. Inst. Mining Met. Engl., Tech. Publ.	25	21	4		
Ann. Occup. Hyg.	25	18	7	X	
Arch. Inst. Pasteur Tunis	25	21	4	X	X
Arch. Mikrobiol.	25	20	5	X	X
Brit. J. Ind. Med.	25	24	1	X	X
C. R. Soc. Biol.	25	25	0	X	X
Food Eng.	25	23	2	X	X
Indian J. Med. Res.	25	25	0	X	X
Ing. Arch.	25	24	1	X	
Int. J. Appl. Radiat. Isotop.	25	25	0	X	X
J. Amer. Pharm. Ass.	25	23	2	X	X
J. Catal.	25	25	0	X	X
J. Cell Biol.	25	16	9	X	X
J. Inst. Petrol., London	25	23	2	X	X
J. Photogr. Sci.	25	21	4	X	X
J. Phys.	25	20	5	X	X
J. Struct. Div., Proc. Amer. Soc. Civil Eng.	25	25	0		
Mining Congr. J.	25	23	2	X	
Phys. Metals Metallogr. (USSR)	25	16	9	X	
Polymer	25	20	5	X	X
Refrig. Eng.	25	22	3	X	
S.A.E. (Soc. Automot. Eng.) Trans.	25	24	1		
Sewage Ind. Wastes	25	25	0	X	
Z. Chem.	25	20	5	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
Amer. J. Ment. Defic.	24	20	4	X	X
Amer. Soc. Test. Mater., Proc.	24	21	3	X	X
Ann. Hum. Genet.	24	23	1		
Arch. Naturgesch.	24	18	6	X	
Brit. Med. Bull.	24	18	6	X	X
Bus. Week	24	23	1	X	X
Chem. Week	24	22	2	X	X
Chim. Ind. (Milan)	24	20	4	X	X
Geochim. Cosmochim. Acta	24	17	7	X	X
IEEE Trans. Circuit Theory	24	24	0		X
Inorg. Chem.	24	20	4	X	X
J. Amer. Psychoanal. Ass. (N. Y.)	24	24	0		
J. Chronic Dis.	24	24	0	X	X
J. Ment. Sci.	24	22	2	X	
J. Nutr.	24	23	1	X	X
J. Phys. (Paris)	24	19	5	X	X
J. Theor. Biol.	24	23	1	X	X
Medicine (Baltimore)	24	23	1	X	X
Mol. Phys.	24	20	4	X	X
Nutr. Rev.	24	23	1	X	X
Oral. Surg., Oral Med., Oral Pathol.	24	21	3	X	
Pharm. J.	24	22	2	X	X
Plast. Technol.	24	23	1	X	X
Plast. World	24	17	7	X	X
Sewage Works J.	24	22	2	X	
Water Sewage Works	24	24	0	X	
Arch. Elektrotech. (Berlin)	23	18	5	X	X
Audio Eng. Soc., J.	23	23	0		
Automation (Cleveland)	23	18	5	X	X
Bull. Acad. Pol. Sci., Ser. Sci., Math., Astron. Phys.	23	17	6	X	X
Bull. Acad. Sci. USSR, Div. Chem. Sci. (Engl. Transl.)	23	12	11	X	
Bull. Biol. Fr. Belg.	23	17	6	X	
Bull. N. Y. Acad. Med.	23	22	1	X	X
Can. Chem. Process.	23	20	3	X	X
Cereal Chem.	23	22	1	X	X
Chem. Prum.	23	20	3	X	X
Czech. J. Phys.	23	19	4	X	X

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	TOTAL	FILLED	UNFILLED		
Des. News.	23	17	6		
Electrochem. Technol.	23	18	5	X	X
Electron. Ind.	23	19	4	X	
Farmakol. Toksikol. (Moscow)	23	17	6	X	X
Izv. Akad. Nauk SSSR, Ser. Fiz.	23	14	9	X	X
J. Aust. Inst. Metals	23	22	1	X	X
J. Biophys. Biochem. Cytol.	23	23	0	X	X
J. Chim. Phys. Physicochim. Biol.	23	22	1	X	X
J. Electrochem. Soc. Jap.	23	14	9	X	X
Life Sci.	23	21	2	X	X
Luftfahrtmedizin	23	18	5	X	
Math. Ann.	23	23	0		
Mem. Fac. Eng., Kyoto Univ.	23	22	1	X	X
Petrol. Eng.	23	18	5		
Pfluegers Arch. Gesamte Physiol. Menschen Tiere	23	23	0	X	X
Phys. Z. Sowjetunion	23	21	2	X	
Porosh. Met.	23	19	4	X	
Proc. Linn. Soc. N. S. Wales	23	23	0	X	X
Proc. Roy. Soc. Queensland	23	15	8	X	X
Rev. Mater. Constr. Trav. Publics	23	21	2		X
SAE (Soc. Automot. Eng.) J.	23	21	2	X	X
Space Aeronaut.	23	15	8		
Vet. Rec.	23	19	4	X	X
Wear	23	21	2	X	X
Acta Pathol. Jap.	22	18	4	X	X
Agr. Biol. Chem. (Tokyo)	22	18	4	X	X
Amer. Natur.	22	22	0	X	X
Ann. Entomol. Soc. Amer.	22	21	1	X	X
Ann. Inst. Pasteur, Paris	22	18	4	X	X
Annu. Rev. Plant Physiol.	22	17	5	X	X
Arch. Mech. Stosowanej	22	21	1	X	X
Arch. Pharm.	22	20	2	X	X
Brit. J. Exp. Pathol.	22	22	0	X	X
Bull. Amer. Math. Soc.	22	22	0		
Chung Kuo Wu Li Hsueh	22	5	17	X	X
Comp. Biochem. Physiol.	22	22	0	X	X
Deut. Med. Wochenschr.	22	17	5	X	X
Electron. Commun. Jap.	22	22	0		
Food Res.	22	22	0	X	

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
Gen. Nucl. Eng. Corp. Rep.	22	22	0		
Helv. Phys. Acta	22	15	7	X	X
Inst. Mining Met., Trans.	22	15	7	X	X
J. Nucl. Med.	22	19	3	X	X
J. Sci. Ind. Res.	22	13	9	X	X
Kagaku Kogaku	22	19	3	X	X
Mater. Des. Eng.	22	21	1	X	
Mineral. Mag.	22	20	2	X	X
Minn. Med.	22	22	0	X	X
Neftekhimiya	22	6	16	X	X
Obstet. Gynecol.	22	21	1	X	X
Ohio J. Sci.	22	18	4	X	X
Oper. Res. Quart.	22	22	0		
Pap. Annu. Tech. Conf. Soc. Plast. Eng.	22	22	0		
Perfum. Essent. Oil Rec.	22	22	0	X	X
Presse Med.	22	19	3	X	X
Proc. Brit. Ceram. Soc.	22	10	12	X	X
Pub. Health Rep. (U. S.)	22	22	0	X	X
Russ. J. Inorg. Chem.	22	20	2	X	
Soil Sci.	22	19	3	X	X
Sv. Laekartion.	22	21	1	X	
Trans. Inst. Chem. Eng.	22	18	4	X	X
Ukr. Fiz. Zh. (Ukr. Ed.)	22	13	9	X	X
U. S. Geol. Surv., Bull.	22	22	0	X	X
Wireless Eng.	22	22	0		
Z. Angew. Math. Phys.	22	19	3	X	X
Zavod. Lab.	22	18	4	X	X
Aerosp. Med.	21	19	2	X	X
Amer. Ass. Petrol. Geol., Bull.	21	21	0	X	
Amer. J. Cardiol.	21	21	0	X	X
Amer. J. Math.	21	21	0		
Amer. J. Phys. Med.	21	18	3	X	
Amer. Perfum.	21	17	4	X	X
Arch. Oral Biol.	21	16	5	X	X
Bacteriol. Rev.	21	20	1	X	X
Bull. Soc. Chim. Biol.	21	20	1	X	X
DECHEMA (Deut. Ges. Chem. Apparatewesen) Monogr.	21	12	9	X	X
Endocrinology	21	19	2	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS			ENTRY IN ACCESS	SERIAL AT CAS
	TOTAL	FILLED	UNFILLED		
Eng. Mater. Des.	21	15	6	X	
Farbe Lack	21	19	2	X	X
Fette, Seifen, Anstrichm.	21	16	5	X	X
Food Technol. (London)	21	17	4	X	X
Gut	21	20	1	X	X
IEEE Trans. Rel.	21	20	1	X	X
Izv. Akad. Nauk SSSR, Ser. Khim.	21	17	4	X	X
J. Hyg.	21	18	3	X	X
J. Med. Chem.	21	21	0	X	X
J. Neurochem.	21	21	0	X	X
J. Oil Colour Chem. Ass.	21	18	3	X	X
Lubric. Eng.	21	21	0	X	X
Physiol. Zool.	21	21	0	X	X
Planta	21	17	4	X	X
Proc. Nat. Electron. Conf.	21	18	3	X	X
Proc. U. S. Nat. Mus.	21	18	3	X	X
Radiology	21	19	2	X	X
Rocz. Chem.	21	19	2	X	X
Rubber World	21	20	1	X	X
Sov. Phys. Tech. Phys.	21	18	3	X	X
Sv. Kem. Tidskr.	21	18	3	X	X
Weld. J. (New York)	21	19	2	X	X
Zh. Mikrobiol., Epidemiol. Immunobiol.	21	15	6	X	X
Zh. Neorg. Khim.	21	14	7	X	X
Acta Endocrinol. (Copenhagen)	20	20	0	X	X
Acustica	20	16	4	X	X
Adhes. Age	20	17	3	X	X
Akad. Wetensch. Amsterdam, Afd. Wis-en Natuurk. Wetensch. Ser. B	20	20	0	X	X
Amer. Ceram. Soc., Bull.	20	19	1	X	X
Amer. J. Bot.	20	18	2	X	X
Amer. J. Roentgenol. Radium Ther. Nucl. Med.	20	19	1	X	X
Amer. J. Vet. Res.	20	20	0	X	X
Amer. Psychol.	20	20	0		
Arch. Eisenhuettenw.	20	20	0	X	X
Arch. Protistenk.	20	20	0	X	

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
Aust. J. Exp. Biol. Med. Sci.	20	20	0	X	X
Bull. Brooklyn Entomol. Soc.	20	20	0		
Can. J. Pub. Health	20	19	1	X	
Can. J. Zool.	20	19	1	X	X
Chem. Met. Eng.	20	17	3	X	X
Cryobiology	20	13	7	X	X
Denki Kagaku	20	9	11	X	X
Discuss. Faraday Soc.	20	19	1	X	X
Dis. Nerv. Syst.	20	19	1	X	X
Gen. Elec. Rev.	20	18	2	X	
Geol. Mag.	20	19	1	X	X
IEEE Trans. Electron. Comput.	20	19	1	X	X
Int. J. Air Water Pollut.	20	20	0	X	X
J. Endocrinol.	20	18	2	X	X
J. Geol.	20	19	1	X	X
J. Speech Hear. Disord.	20	20	0		
J. Wash. Acad. Sci.	20	17	3	X	X
Kaltetech., Klimatisierung	20	20	0		
Muenchen. Med. Wochenschr.	20	17	3	X	X
Neurology	20	20	0	X	X
Pac. J. Math.	20	20	0		
Photochem. Photobiol.	20	19	1	X	X
Phys. Chem. Glasses	20	17	3	X	X
Proc. Amer. Math. Soc.	20	20	0		
Rev. Suisse Zool. Ann. Soc. Suisse Zool. Mus. Hist. Natur. Geneve	20	20	0		
Ric. Sci.	20	15	5	X	X
Silikattechnik	20	20	0		X
Soap Chem. Spec.	20	19	1	X	X
Stain Technol.	20	20	0	X	
Trans. Amer. Soc. Metals	20	17	3	X	
VDI (Ver. Deut. Ing.) Z.	20	18	2	X	X
Victorian Natur.	20	20	0		
Acta Oto Laryngol.	19	16	3	X	
Acta Physiol. (Budapest)	19	19	0		X
Amer. Soc. Heat., Refrig. Air Cond. Eng. Trans.	19	19	0		X
Appl. Mater. Res.	19	17	2	X	
Appl. Mech. Rev.	19	16	3	X	X
Ark. Fys.	19	18	2	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS TOTAL	FILLED	UNFILLED	ENTRY IN ACCESS	SERIAL AT CAS
Blood	19	19	0	X	X
Brit. J. Anaesth.	19	17	2	X	X
Brit. J. Surg.	19	18	1	X	
Bull. Soc. Chim. Belg.	19	16	3	X	X
Cancer (Philadelphia)	19	17	1	X	X
Chem. Ztg.	19	14	5	X	X
Chin. J. Physiol.	19	19	0	X	X
Coal Age	19	18	1	X	
Corros. Sci.	19	15	4	X	X
Deut. Gesundheitsw.	19	17	2	X	X
Diabetologia	19	18	1	X	X
Elec. Commun.	19	18	1	X	X
Eur. Polym. J.	19	9	10	X	X
Genetics	19	18	1	X	X
Geotechnique	19	19	0	X	X
Ind. Heat.	19	19	0	X	
IRE Trans. Antennas Propagat.	19	16	3	X	X
J. Abnorm. Soc. Psychol.	19	19	0	X	
J. Appl. Math. Mech.	19	10	9	X	
J. Clin. Endocrinol.	19	18	1	X	X
J. Food Sci.	19	15	4	X	X
J. Genet. Psychol.	19	19	0		
J. Reine Angew. Math.	19	19	0		
J. Roy. Microsc. Soc.	19	19	0	X	X
Marconi Rev.	19	16	3		
Meas. Tech. (USSR)	19	16	3	X	
Mem. Proc. Manchester Lit. Phil. Soc.	19	18	1	X	
Mod. Packag.	19	17	2	X	X
Nucleonics	19	19	0	X	X
Off. Dig., Fed. Soc. Paint Technol.	19	19	0	X	
Platinum Metals Rev.	19	18	1	X	X
Power Eng.	19	19	0	X	
Proc. Chem. Soc., London	19	16	3	X	X
Prod. Finish. (London)	19	14	5	X	X
Quart. J. Geol. Soc. London	19	15	4	X	X
Rev. Inst. Fr. Petrole Ann. Combust. Liquides	19	16	3	X	X
Rock Prod.	19	18	1	X	X
Sem. Hop.	19	12	7	X	X

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Smithson. Misc. Collect.	19	17	2	X	X
Sov. Phys. Dokl.	19	15	4	X	X
Teploenergetika	19	10	9	X	X
Trans. Inst. Metal Finish.	19	16	3	X	X
Trans. Inst. Rubber Ind.	19	14	5	X	X
Trans. Jap. Inst. Metals	19	17	2	X	X
Trans. Roy. Soc. Edinburgh	19	11	8	X	X
Yuki Gosei Kagaku Kyokai Shi	19	18	1	X	X
Zh. Vses. Khim. Obshchest.	19	16	3	X	X
Amer. J. Hyg.	18	16	2	X	
Amer. J. Orthopsychiat.	18	16	2	X	
Amer. J. Psychol.	18	17	1	X	
Ann. Med. Exp. Biol. Fenn.	18	15	3	X	X
Ann. Phys. (Paris)	18	15	3	X	X
Appl. Plast.	18	15	3	X	X
Aust. J. Phys.	18	18	0	X	X
Azerb. Khim. Zh.	18	10	8	X	X
Boston Med. Surg. J.	18	18	0	X	
Brennst. Chem.	18	13	5	X	X
Brit. J. Haematol.	18	17	1	X	X
Byull. Eksp. Biol. Med.	18	16	2	X	X
Can. J. Math.	18	18	0		
Colloid J. USSR	18	15	3	X	
Colloq. Nat. Cent. Nat. Rec. Sci. (Fr.)	18	11	7	X	X
Contemp. Phys.	18	15	3	X	X
C. R. Trav. Lab. Carlsberg	18	18	0	X	X
Cryogenics	18	17	1	X	X
Dokl. Bolg. Akad. Nauk	18	11	7	X	X
Exp. Mech.	18	18	0	X	
Gegenbaurs Morphol. Jahrb.	18	18	0		
Hospitals	18	16	2	X	
Houille Blanche	18	18	0	X	
Hum. Fact.	18	18	0		
Hydraul. Pneumat.	18	18	0		
IBM J. Res. Develop.	18	18	0	X	X
Ind. Finish. (Indianapolis)	18	11	7	X	X
Indian J. Phys.	18	18	0	X	X
Inzh. Fiz. Zh.	18	14	4	X	X
Izv. Tikhookean. Nauch. Issled. Inst. Ryb. Khoz. Okeanogr.	18	6	12	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS			ENTRY IN ACCESS	SERIAL AT CAS
	TOTAL	FILLED	UNFILLED		
J. Amer. Leather Chem. Ass.	18	17	1	X	X
J. Atmos. Terr. Phys.	18	17	1	X	X
J. Clin. Psychol.	18	12	6	X	
J. Gas Chromatogr.	18	15	3	X	X
J. Math. Anal. Appl.	18	18	0		
J. Neurol., Neurosurg. Psychiat.	18	16	2	X	X
J. Parasitol.	18	18	0	X	X
J. Phys. Colloid Chem.	18	18	0	X	X
Mater. Prot.	18	18	0	X	X
Microchem. J.	18	14	4	X	X
Nervenarzt	18	17	1	X	X
Nucl. Phys.	18	15	3	X	X
Onde Elec.	18	17	1	X	
Opt. Acta (London)	18	18	0		X
Paint Mfr.	18	16	2	X	X
Pharmacol. Rev.	18	17	1	X	X
Physiol. Bohemoslov.	18	16	2	X	X
Plast. Des. Process.	18	12	6	X	X
Plaste Kaut.	18	15	3	X	X
Plastics (London)	18	15	3	X	X
Polym. Eng. Sci.	18	12	6	X	X
Powder Met.	18	15	3	X	X
Proc. Amer. Acad. Arts Sci.	18	15	3	X	
Process Biochem.	18	16	2	X	X
Psychol. Bull.	18	18	0		
Quart. Appl. Math.	18	18	0		
Rev. Met. (Paris)	18	15	3	X	X
Schweiz. Med. Wochenschr.	18	17	1	X	X
Sci. J.	18	11	7	X	X
SIAM (Soc. Ind. Appl. Math.) Rev.	18	17	1	X	
SPIE (Soc. Photo Opt. Instrum. Eng.) J.	18	17	1	X	
Steroids	18	18	0	X	X
Struct. Eng.	18	17	1		
Surveyor	18	16	2	X	
Trans. Amer. Fish. Soc.	18	12	6	X	X
Trans. Brit. Ceram. Soc.	18	18	0	X	X

ABBREVIATED TITLE	INTERLIBRARY LOANS			ENTRY IN ACCESS	SERIAL AT CAS
	TOTAL	FILLED	UNFILLED		
Trans. Kans. Acad. Sci.	18	16	2	X	X
Trans. Proc. Roy. Soc. N. Z.	18	10	8	X	
Trans. Soc. Rheol.	18	14	4	X	X
Ukr. Khim. Zh.	18	15	3	X	X
Ultrasonics	18	14	4	X	X
Z. Zellforsch. Mikrosk. Anat.	18	16	2	X	X

APPENDIX 22

List of Serials Requested Eight or More Times on Interlibrary Loan for Which ACCESS Contains no Entry

APPENDIX 22

LIST OF SERIALS REQUESTED EIGHT OR MORE TIMES ON INTERLIBRARY LOAN FOR WHICH ACCESS CONTAINS NO ENTRY

- 1 -

NUMBER OF INTERLIBRARY LOANS	ABBREVIATED TITLE
286	Amer. Soc. Mech. Eng., Misc. Paper
263	Amer. Soc. Mech. Eng., Paper
99	Oil Gas J.
92	Biometrika
78	Electron. Des.
73	Ann. Math. Statist.
72	Proc. Inst. Mech. Eng.
55	Comput. J.
48	Soc. Autom. Eng., Pap.
47	Technometrics
46	J. Ind. Eng.
46	Psychol. Rev.
45	Ind. Qual. Contr.
44	Commun. ACM
43	J. Amer. Statist. Ass.
43	J. Mech. Eng. Sci.
43	Nautilus
43	Wireless World
42	J. Ass. Comput. Mach.
40	ASLE (Amer. Soc. Lubric. Eng.). Trans.
40	Steel
38	Ann. Math.
38	Proc. Joint Comput. Conf.
37	Percept. Motor Skills
36	Civil Eng. (London)
36	Trans. Amer. Math. Soc.
35	Manage Sci.
35	Trans. Amer. Geophys. Union
34	Bull. Seismol. Soc. Amer.
34	IRE (Inst. Radio Eng.) Trans. Inform. Theory
34	Microwave J.
34	Trans. Amer. Inst. Elec. Eng., Part 2
34	Int. J. Psycho-Anal.
33	Can. Mining Met. Bull.
32	Elec. Eng. Jap.
31	Acta Physicochimica URSS
31	N. Y. State J. Med.
31	Proc. London Math. Soc.
31	Simulation

NUMBER OF INTERLIBRARY LOANS	ABBREVIATED TITLE
29	Amer. Math. Mon.
29	Ann. Mag. Nat. Hist., Incl. Zool., Bot. Geol.
29	Bull. Mus. Nat. Hist. Natur. (Paris)
29	Dir. Curr.
29	Proc. Joint Automat. Contr. Conf.
28	Vacuum
27	Cereb. Palsy Rev.
27	Collect. Pap., Amer. Soc. Tool Mfg. Eng.
27	J. Eng. Mech. Div., Proc. Amer. Soc. Civil Eng.
27	Quart. J. Mech. Appl. Math.
26	Aeronaut. Res. Counc., Rep. Memo. (London)
26	Electron. News
26	IRE (Inst. Radio Eng.) Trans. Eng. Manage.
26	J. Roy. Statist. Soc., Ser. B
25	Amer. Inst. Mining Met. Engl., Tech. Publ.
25	J. Struct. Div., Proc. Amer. Soc. Civil Eng.
25	SAE (Soc. Automot. Eng.) Trans.
24	Ann. Hum. Genet.
24	IEEE Trans. Circuit Theory
24	J. Amer. Psychoanal. Ass. (N. Y.)
23	Audio Eng. Soc., J.
23	Des. News
23	Math. Ann.
23	Petrol. Eng.
23	Rev. Mater. Constr. Trav. Publics
23	Space Aeronaut.
22	Bull. Amer. Math. Soc.
22	Electron. Commun. Jap.
22	Gen. Nucl. Eng. Corp. Rep.
22	Oper. Res. Quart.
22	Pap. Annu. Tech. Conf. Soc. Plast. Eng.
22	Wireless Eng.

NUMBER OF INTERLIBRARY LOANS	ABBREVIATED TITLE
21	Amer. J. Math.
20	Amer. Psychol.
20	Bull. Brooklyn Entomol. Soc.
20	J. Speech Hear. Disord.
20	Kaltetech., Klimatisierung
20	Pac. J. Math.
20	Proc. Amer. Math. Soc.
20	Rev. Suisse Zool. Ann. Soc. Suisse Zool. Mus. Hist. Natur. Geneve
20	Silikattechnik
20	Victorian Natur.
19	Acta Physiol. (Budapest)
19	Amer. Soc. Heat., Refrig. Air Cond. Eng. Trans.
19	Brit. J. Surg.
19	J. Genet. Psychol.
19	J. Reine Angew. Math.
19	Marconi Rev.
18	Can. J. Math.
18	Gegenbaurs Morphol. Jahrb.
18	Hum. Fact.
18	Hydraul. Pneumat.
18	J. Math. Anal. Appl.
18	Opt. Acta (London)
18	Psychol. Bull.
18	Quart. Appl. Math.
18	Struct. Eng.
17	Electron. Prod.
17	Geogr. Sb. (Prague)
17	Harvard Bus. Rev.
17	J. Consult. Psychol.
17	Numer. Math.
17	Quart. J. Math (Oxford)
17	Zoologica (Stuttgart)
16	Comput. Automat.
16	Electron. Packag. Prod.
16	Ind. Electron.
16	IRE (Inst. Radio Eng.) Trans. Prof. Groups
16	J. Inst. Navig.
16	Psychoanal. Quart.

NUMBER OF INTERLIBRARY LOANS	ABBREVIATED TITLE
16	U. S. Air Force, Radiat. Lab. Univ. Chicago, Quart. Progr. Rep.
15	Bull. Med. Libr. Ass.
15	Compr. Psychiat.
15	Frequenz (Berlin)
15	Math. Comput.
15	Psychometrika
15	Tool Mfg. Eng.
15	Columbia Univ. Columbia Radiat. Lab. Quart. Rep.
14	Banking
14	Duke Math. J.
14	Hosp. Progr.
14	Physiotherapy
14	Psychol. Rep.
14	Sov. Phys. USSR
14	Phys. Pam.
13	Aeronaut. Quart.
13	Appl. Statist.
13	Bot. Jahrb. Syst. Pflanz. Pflanz.
13	Elec. Times
13	Inform. Contr.
13	J. Appl. Psychol., Sci. Ed.
13	J. Inst. Elec. Commun. Eng. Jap.
13	J. Prot. Tech.
13	J. Roy. Statist. Soc.
13	J. Ship Res.
13	Microwaves
13	Mech. Handl.
13	Motor Ship
13	Optik (Berlin)
13	Quart. J. Exp. Psychol.
13	Sci. Digest (Chicago)
13	Trans. Amer. Soc. Heat. Vent. Eng.
13	Undersea Technol.
12	Anim. Behav.
12	Ann. Eugen. (Cambridge)
12	Appl. Ther.
12	Behav. Sci.

NUMBER OF INTERLIBRARY LOANS	ABBREVIATED TITLE
12	Dock Harbor Auth.
12	Dun's Rev. Mod. Ind.
12	Electron. Technol.
12	Mod. Mater. Handl.
12	Quart. Rep. Ry. Tec. Res. Inst. Jap.
12	Z. Tierpsychol.
12	Zool. Jahrb. Abt. Syst. Oekol. Geogr. Tiere
12	Behav. Res. Ther.
12	Des. Components Eng.
12	Paraplegia (Edinburgh)
11	Amer. Anthropol.
11	Brit. J. Phil. Sci.
11	Bull. Soc. Math. France
11	Geogr. J. London
11	IEEE Trans. Syst. Sci. Cybern.
11	Int. Hydrogr. Rev.
11	J. Math. Pures Appl.
11	J. Farm. Econ.
11	Post Office Elec. Eng. J.
11	Q. S. T. (Amat. Radio)
11	Radio-Electron.
11	Shipbuilding Shipping Rec.
11	Sci. News Engl.
11	Symp. Zool. Soc. London
11	Trans. Amer. Entomol. Soc.
11	Tohoku Math. J.
11	Univ. Utah Eng. Exp. Sta. Bull.
11	Mining Miner. Eng. London
11	Textura Sist. Nervioso Hombre Los Vertebrados
11	A. I. M. E. Prepr.
10	Acta Math. Sweden
10	Acta Math. Hungary
10	Arch. Elek. Ubertragung
10	Analyst. Worcester, Mass.
10	A. T. E. J. (Automat. Teleph. Elec. Co., Ltd.)
10	Can. Aeronaut. Space J.
10	Econometrica

NUMBER OF INTERLIBRARY LOANS	ABBREVIATED TITLE
10	Fundam. Math.
10	I. B. M. Tech. Disclosure Bull.
10	Jugoslav. Akad. Znanosti Umjetnosti
10	J. Conchyliologie
10	Mar. Eng. Log
10	Metabolism
10	Proc. Biol. Soc. Washington
10	Proc. Malacol. Soc. London
10	Quart. Trans. Roy. Inst. Nav. Architects (London)
10	Rev. Algol.
10	Sci. J. (Canton)
10	Solid State Des.
10	Cond. Reflex
10	Amer. Soc. Mech. Eng. Prepr.
10	Hooker's J. Bot.
10	London Med. Gaz.
9	Akad. Wet. Amsterdam, Proc. Ser. A Math. Sci.
9	Data Proc. (Detroit)
9	Electromech. Components Syst. Des.
9	Elec. Des. News
9	Ind. Museum Rec.
9	J. London Math. Soc.
9	J. Sound Vib.
9	Metall. Int. Z. Technik Wirtsch.
9	Mat. Fys. Meddelser. Dan. Vidensk. Selsk.
9	Mon. Notic. Roy. Astron. Soc. Geophys. Suppl.
9	Mach. Tool Bluebook
9	Metalworking News
9	N. A. A. Bull. (Nat. Ass. Accountants)
9	Naval Res. Logistics Quart.
9	Proc. Inst. Radio Electron. Eng. (Australia)
9	Psychol. Rec.
9	Systems (Data Process. Corp., N. Y.)
9	Trans. Soc. Instr. Technol.
9	Univ. Calif. Radiat. Lab. Rep.
9	Zentralbl. Haut-Geschlechtskr. Sowie Deren Grenzgeb.

NUMBER OF INTERLIBRARY LOANS	ABBREVIATED TITLE
9	Zool. Beitr.
9	Syst. Proced. J.
9	Z. Math. Phys. Leipzig
9	Publ. Works Mag.
9	Quart. J. Pure Appl. Math.
9	Int. Ass. Hydraul. Res.
8	Annu. Proc. Tech. Sess. Amer. Electroplaters' Soc.
8	Ann. Sci. Ecole Norm. Super.
8	Assem. Eng.
8	Bull. Int. Ass. Test. Res. Lab. Mater. Struct.
8	Can. Field-Nat.
8	Civil Eng. Publ. Works Rev.
8	Can. J. Psychol.
8	Commun. Pure Appl. Math.
8	Civil Eng.
8	Elec. Constr. Main.
8	Electron. Power Inst. Elec. Eng.
8	Indep. Petrol. Ass. Amer. Mon.
8	Int. Shipbuilding Progr.
8	Jahresber. Deut. Math. Ver.
8	Mammalia
8	Mill Fact.
8	Mathematika
8	Math. Tables Other Aids Comput.
8	Nursing Mirror Midwives J.
8	Palaeontogr. Abt. B. Palaophytologie
8	Palaeontographica (Stuttgart)
8	Psychoanal. Rev.
8	Rand Corp. Pap.
8	Rev. Geogr. Phys. Geol. Dyn.
8	S. Econ. J.
8	Trans. Roy. Entomol. Soc. London
8	Vie Med. (Paris)
8	Water Power
8	Zool. Bidrag Fran Uppsala
8	Zool. Jahrb.
8	Wash. Univ. Dept. Oceanogr. Tech. Rep.

APPENDIX 23

List of 56 Serials and Conference Proceedings Volumes for Which There were Four or More Interlibrary Loan Requests for the Same Article or Paper

ABBREVIATED TITLE

Abh. Preuss. Meterol. Inst. Berlin

Acad. Sci. USSR, Proc. Biol. Sci. Sect.

Ann. Radiol.

Arch. Elektrotech. (Berlin)

Arch. Inst. Pasteur Alger.

Azerb. Khim. Zh.

Brit. Weld. J.

Bull. Acad. Pol. Sci.

Bull. Fan. Mem. Inst. Biol. Bot. Ser.

Byull. Mosk. Obshchest. Ispyt. Prir. Otd. Biol.

Chung-Kuo Wu Li Hsueh

C. R. Acad. Sci., Paris

Dokl. Akad. Nauk. SSSR

Electrochem. Soc., Proc. Fall Mtg. 1967

Evolution

Farmakol. Toksikol. (Moscow)

Fukuoka Acta Med.

Izv. Akad. Nauk SSSR, Ser. Fiz.

Izv. Tikhookean. Nauch. Issled. Inst. Ryb. Khoz. Okeanogr.

J. Amer. Ceram. Soc.

J. Appl. Chem. USSR

J. Coll. Gen. Practitioners

J. Med. Lyon

ABBREVIATED TITLE

J. Microbiol. Epidemiol. Immunobiol. (USSR)

Jap. J. Appl. Phys.

Jap. J. Bacteriol.

Jogoslav. Akad. Znanosti Umjetnosti

Korean J. Intern. Med.

Mod. Sanit. Bldg. Maint.

Navigation

Nippon Ganka Gakkai Zasshi

Pak. Cottons

Palaeontol. Novitates

Pap. Proc. Roy. Soc. Tasmania

Philipp. J. Sci.

Phys. Pam.

Polski Przeglad Radiol. Warszawa

Probl. Peredachi Inform. Akad. Nauk SSSR

Proc. Aust. Comput. Conf., 1966

Proc. Int. Congr. Phys. Med., 1965

Proc. Symp. Struct. Funct. Skeletal, Sittue, 1965

Recenti Prog. Med.

Rech. Astron. Observ. Utrecht

Sci. Rep. Tohoku Univ. Ser. I

Scr. Bot., Bot. Zap. Leningrad. Univ.

Symp. Inelastic Scattering Neutrons, Bombay, 1964

ABBREVIATED TITLE

Ter. Perm. Biol. Nauch. Issled. Inst.

Trans. Amer. Inst. Chem. Eng.

Trans. Inst. Rubber Ind.

Tr. Bot. Sad. Tiflis

U. S. At. Energ. Comm., Rep.

Verfahrenstechnik

Z. Gesamte Hyg. Ihre Grenzgeb.

Z. Morphol. Oekol. Tiere

Zh. Mikrobiol. Epidemiol. Immunobiol.

Zh. Org. Khim.

APPENDIX 24

List of 55 Serials for which There were Ten or More Unfilled or Untimely Filled (Ten Days after Receipt) Interlibrary Loan Requests Indicating Status of Entry in ACCESS and in CAS Library Collection

Number of Requests	ACCESS	CAS	Titles
10	X	X	Acta Chem. Scand.
12	X	X	AIAA J.
10	X	X	Amer. Ind. Hyg. Ass., J.
13		X	Amer. Soc. Mech. Eng., Paper
14	X	X	Angew. Chem. Int. Ed. Engl.
25	X	X	Ann. N. Y. Acad. Sci.
10	X	X	Ark. Kemi
10	X	X	Brit. Chem. Eng.
13	X	X	Brit. J. Appl. Phys.
19	X	X	Bull. Acad. Sci. USSR, Phys. Ser.
14	X	X	Bull. Chem. Soc. Jap.
14	X	X	Chem. Age India
11	X	X	Chem. Ber.
11	X	X	Chem. Eng. Progr.
10	X	X	Chem. Tech. (Leipzig)
11	X	X	Curr. Sci.
11	X	X	Denki Kagaku Oyobi Kogyo Butsuri Kagaku
17	X	X	Dokl. Akad. Nauk SSSR
13	X	X	Electro-Technol. (New York)
11	X		Engineering (London)
10	X	X	Eur. Polym. J.
10	X	X	Indian J. Chem.
15	X	X	Indian J. Pure Appl. Phys.
19	X	X	J. Amer. Oil Chem. Soc.
15	X	X	Jap. J. Appl. Phys.
18	X	X	J. Appl. Chem. USSR

Number of Requests	ACCESS	CAS	Titles
23	X	X	J. Appl. Phys.
13	X	X	J. Appl. Polym. Sci.
18	X	X	J. Chem. Phys.
12	X	X	J. Chromatogr.
11	X	X	J. Electrochem. Soc.
14	X	X	JETP Lett.
16	X	X	J. Gen. Chem. USSR
10	X	X	J. Occup. Med.
16	X	X	J. Phys. Chem.
12	X	X	J. Phys. Chem. Solids
13	X	X	J. Phys. Soc. Jap.
10	X	X	J. Sci. Instrum.
10	X	X	J. Water Pollut. Contr. Fed.
17	X	X	Kogyo Kagaku Zasshi
12	X	X	Makromol. Chem.
22	X	X	Nature (London)
16	X	X	Neftekhimiya
15	X	X	New Sci.
16	X	X	Oil. Paint Drug Rep.
15	X	X	Phys. Rev.
20	X	X	Phys. Status Solidi
12	X	X	Proc. Brit. Ceram. Soc.
10	X	X	Proc. Roy. Soc., Ser. A
12	X	X	Prod. Eng.
10	X	X	Przem. Chem.
14	X	X	Rubber Plast. Age
27	X	X	Tetrahedron Lett.
10	X	X	Z. Angew. Phys.
13	X	X	Zh. Prikl. Khim. (Leningrad)

Number of Requests	ACCESS	CAS	Titles
10	X	X	Acta Chem. Scand.
12	X	X	AIAA J.
10	X	X	Amer. Ind. Hyg. Ass., J.
13		X	Amer. Soc. Mech. Eng., Paper
14	X	X	Angew. Chem. Int. Ed. Engl.
25	X	X	Ann. N. Y. Acad. Sci.
10	X	X	Ark. Kemi
10	X	X	Brit. Chem. Eng.
13	X	X	Brit. J. Appl. Phys.
19	X	X	Bull. Acad. Sci. USSR, Phys. Ser.
14	X	X	Bull. Chem. Soc. Jap.
14	X	X	Chem. Age India
11	X	X	Chem. Ber.
11	X	X	Chem. Eng. Progr.
10	X	X	Chem. Tech. (Leipzig)
11	X	X	Curr. Sci.
11	X	X	Denki Kagaku Oyobi Kogyo Butsuri Kagaku
17	X	X	Dokl. Akad. Nauk SSSR
13	X	X	Electro-Technol. (New York)
11	X		Engineering (London)
10	X	X	Eur. Polym. J.
10	X	X	Indian J. Chem.
15	X	X	Indian J. Pure Appl. Phys.
19	X	X	J. Amer. Oil Chem. Soc.
15	X	X	Jap. J. Appl. Phys.
18	X	X	J. Appl. Chem. USSR

Number of Requests	ACCESS	CAS	Titles
23	X	X	J. Appl. Phys.
13	X	X	J. Appl. Polym. Sci.
18	X	X	J. Chem. Phys.
12	X	X	J. Chromatogr.
11	X	X	J. Electrochem. Soc.
14	X	X	JETP Lett.
16	X	X	J. Gen. Chem. USSR
10	X	X	J. Occup. Med.
16	X	X	J. Phys. Chem.
12	X	X	J. Phys. Chem. Solids
13	X	X	J. Phys. Soc. Jap.
10	X	X	J. Sci. Instrum.
10	X	X	J. Water Pollut. Contr. Fed.
17	X	X	Kogyo Kagaku Zasshi
12	X	X	Makromol. Chem.
22	X	X	Nature (London)
16	X	X	Neftekhimiya
15	X	X	New Sci.
16	X	X	Oil. Paint Drug Rep.
15	X	X	Phys. Rev.
20	X	X	Phys. Status Solidi
12	X	X	Proc. Brit. Ceram. Soc.
10	X	X	Proc. Roy. Soc., Ser. A.
12	X	X	Prod. Eng.
10	X	X	Przem. Chem.
14	X	X	Rubber Plast. Age
27	X	X	Tetrahedron Lett.
10	X	X	Z. Angew. Phys.
13	X	X	Zh. Prikl. Khim. (Leningrad)

APPENDIX 25

List of 628 Serials Common to the Core Literature for Two or More of Six Scientific and Technical Disciplines or Subject Areas with Indication of Presence of an Entry in ACCESS and Occurrence of the Serial in the Interlibrary Loan File

SERIALS COMMON TO THE CORE LITERATURE OF TWO OR MORE OF SIX DISCIPLINES WITH OCCURRENCE OF SERIAL IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
ACTA PHYSIOL. LAT. AMER.	3		X	X		X		X
ACTA PHYSIOL. SCAND.	3		X	X		X		X
ACTA VIROL. (PRAGUE), ENGL. ED.	3		X	X		X		X
AERZTL. FORSCH.	3		X	X		X		X
AMER. J. MED.	3		X	X		X		X
AMER. J. PHYS.	3			X	X		X	X
AMER. J. ROENTGENOL., RADIUM THER. NUCL. MED.	3			X	X	X		X
AMER. J. VET. RES.	3		X	X		X		X
ANAL. BIOCHEM.	3			X	X	X		X
ANAL. CHEM.	3			X	X	X		X
ANAL. CHIM. ACTA	3			X	X	X		X
ANALYST (LONDON)	3			X	X	X		X
ANAT. REC.	3		X	X		X		X
ANESTHESIOLOGY	3		X	X		X		X
ANGEW. CHEM., INT. ED. ENGL.	3		X	X		X		X
ANN. ENDOCRINOL.	3		X	X		X		X
ANN. MED. EXP. BIOL. FENN.	3		X	X		X		X
ANN. PHYS. (LEIPZIG)	3			X	X		X	X
ANN. PHYS. (NEW YORK)	3			X	X		X	X
ANTONIE VAN LEEUWENHOEK J. MICROBIOL. SEROL.	3		X	X		X		X
APPL. MICROBIOL.	3		X	X		X		X
APPL. PHYS. LETT.	3			X	X		X	X
ARCH. BIOCHEM. BIOPHYS.	3		X	X		X		X
ARCH. ORAL BIOL.	3		X	X		X		X
ARCH. PATHOL.	3		X	X		X		X
ARTHRITIS RHEUM.	3		X	X		X		X
AT. ENERG.	3			X	X		X	X
AUST. J. BIOL. SCI.	3		X	X		X		X
AUST. J. PHYS.	3			X	X		X	X
BIOCHEM. PHARMACOL.	3		X	X		X		X
BIOPHYS. J.	3		X	X		X		X
BIOPOLYMERS	3		X	X		X		X
BOLL. SOC. ITAL. BIOL. SPER.	3			X	X	X		X
BRIT. J. APPL. PHYS.	3			X	X		X	X
BRIT. J. NUTR.	3		X	X		X		X
BULL. CHEM. SOC. JAP.	3			X	X	X		X

ERIALS COMMON TO THE CORE LITERATURE OF TWO OR MORE OF SIX DISCIPLINES
WITH OCCURRENCE OF SERIAL IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
AMER. J. CLIN. NUTR.	2			X		X		X
AMER. J. DIG. DIS.	2			X		X		X
AMER. J. DIS. CHILD.	2			X		X		X
AMER. J. GASTROENTEROL.	2			X		X		X
AMER. J. MED. SCI.	2			X		X		X
AMER. J. OBSTET. GYNECOL.	2			X		X		X
AMER. J. OPHTHALMOL.	2			X		X		X
AMER. J. PATHOL.	2			X		X		X
AMER. J. PHARM. SCI. SUPPORTING PUBLIC HEALTH	2			X		X		
AMER. J. PSYCHIAT.	2			X		X		X
ANAESTHESIA	2			X		X		X
ANAESTHESIST	2			X		X		X
ANESTH. ANALG. (CLEVELAND)	2			X		X		X
ANESTH., ANALG., REANIM.	2			X		X		
ANGIOLOGY	2			X		X		X
ANN. ALLERGY	2			X		X		X
ANN. APPL. BIOL.	2			X		X		X
ANN. BIOL. CLIN. (PARIS)	2			X		X		X
ANN. BOT. (LONDON)	2		X	X				X
ANN. HISTOCHIM.	2			X		X		X
ANN. INST. PASTEUR, PARIS	2			X		X		X
ANN. INTERN. MED.	2			X		X		X
ANN. N. Y. ACAD. SCI.	2			X		X		X
ANN. NUTR. ALIMENT.	2			X		X		X
ANN. PHARM. FR.	2			X		X		X
ANN. TROP. MED. PARASITOL.	2			X		X		X
ANNU. REV. BIOCHEM.	2			X		X		X
ANTIBIOTICA	2			X		X		
ANTIBIOTIKI (MOSCOW)	2			X		X		X
APPL. OPT.	2			X			X	X
APPL. SPECTROSC.	2		X	X				X
ARCH. EISENHUETTENW.	2	X		X				X
ARCH. ENVIRON. HEALTH	2			X		X		X
ARCH. GEN. PSYCHIAT.	2			X		X		X
ARCH. GESAMTE VIRUSFORSCH.	2			X		X		X
ARCH. INT. PHARMACODYN. THER.	2			X		X		X
ARCH. INT. PHYSIOL. BIOCHIM.	2			X		X		X

SERIALS COMMON TO THE CORE LITERATURE OF TWO OR MORE OF SIX DISCIPLINES WITH OCCURRENCE OF SERIAL IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
ARCH. INTERN. MED.	2			X		X		X
ARCH. KINDERHEILK.	2			X		X		
ARCH. MIKROBIOL.	2			X		X		X
ARCH. NEUROL. (CHICAGO)	2			X		X		X
ARCH. PHARM. (WEINHEIM, GER.)	2			X		X		X
ARCH. SCI. PHYSIOL.	2			X		X		X
ARCH. SURG. (CHICAGO)	2			X		X		X
ARCH. TOXIKOL.	2			X		X		X
ARKH. PATOL.	2			X		X		X
ARZNEIM.-FORSCH.	2			X		X		X
ASTRON. J.	2			X			X	X
ATTI ACCAD. NAZ. LINCEI, CL. SCI. FIS. , MAT. NATUR., REND.	2			X	X			X
AUST. J. AGR. RES.	2		X	X				X
AUST. J. CHEM.	2		X	X				X
AVIAN DIS.	2			X		X		X
BEITR. KLIN. ERFORSCH. TUBERK. LUNGENKR.	2			X		X		
BER. BUNSENGES. PHYS. CHEM.	2			X			X	X
BIOCHEM. BIOPHYS. RES. COMMUN.	2			X		X		X
BIOFIZIKA	2			X		X		X
BIOKHIMIYA	2			X		X		X
BIOPOLYM., SYMP.	2			X		X		X
BIOTECHNOL. BIOENG.	2		X	X				X
BLOOD	2			X		X		X
BOT. GAZ. (CHICAGO)	2		X	X				X
BRAIN RES.	2			X		X		X
BRIT. J. ANAESTH.	2			X		X		X
BRIT. J. CANCER	2			X		X		X
BRIT. J. EXP. PATHOL.	2			X		X		X
BRIT. J. HAEMATOL.	2			X		X		X
BRIT. J. IND. MED.	2			X		X		X
BRIT. J. PSYCHIAT.	2			X		X		X
BRIT. MED. BULL.	2			X		X		X
BRIT. MED. J.	2			X		X		X
BULL. ACAD. POL. SCI., SER. SCI. BIOL	2			X		X		X
BULL. ACAD. POL. SCI., SER. SCI. CHIM	2			X	X			X
BULL. CALCUTTA SCH. TROP. MED.	2			X		X		X

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ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
BULL. CANCER	2			X		X		X
BULL. ENTOMOL. RES.	2			X		X		X
BULL. INST. CHEM. RES., KYOTO UNIV.	2			X	X			X
BULL. N. Y. ACAD. MED.	2			X		X		X
BULL. SCHWEIZ. AKAD. MED. WISS.	2			X		X		X
BULL. SOC. CHIM. BELG.	2			X		X		X
BUNSEKI KAGAKU	2			X	X			X
C. R. ACAD. SCI., SER. A B	2			X	X			X
C. R. ACAD. SCI., SER. C	2			X	X			X
C. R. ACAD. SCI., SER. D	2			X		X		X
CAN. J. BOT.	2		X	X				X
CAN. J. PLANT SCI.	2		X	X				X
CAN. J. SOIL SCI.	2		X	X				X
CAN. MED. ASS. J.	2			X		X		X
CARBOHYD. RES.	2		X	X				X
CARBON	2			X	X			X
CARDIOLOGIA	2			X		X		X
CEREAL CHEM.	2		X	X				X
CESK. FARM.	2			X		X		X
CHEM. ANAL. (WARSAW)	2			X	X			X
CHEM. BER.	2			X		X		X
CHEM. COMMUN.	2			X	X			X
CHEM. ENG. PROGR.	2			X	X			X
CHEM. IND. (LONDON)	2			X		X		X
CHEM. PHARM. BULL.	2			X		X		X
CHEM. REV.	2			X		X		X
CHEM. ZVESTI	2			X	X			X
CHIMIA	2		X	X				X
CHIRURG	2			X		X		X
CLIN. CHEM.	2			X		X		X
CLIN. EXP. IMMUNOL.	2			X		X		X
CLIN. PEDIAT.	2			X		X		X
CLIN. PHARMACOL. THER.	2			X		X		X
CLIN. SCI.	2			X		X		X
COBALT	2	X		X				X
COLLECT. CZECH. CHEM. COMMUN.	2			X	X			X
COLLOQ. INT. CENT. NAT. RECH. SCI.	2			X	X			X
CORROSION	2	X		X				X

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ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
BULL. SOC. CHIM. FR.	3			X	X	X		X
BULL. WHO	3		X	X		X		X
BYULL. EKSP. BIOL. MED.	3			X	X	X		X
C. R. SOC. BIOL.	3			X	X	X		X
C. R. TRAV. LAB. CARLSBERG	3		X	X		X		X
CAN. J. BIOCHEM.	3		X	X		X		X
CAN. J. MICROBIOL.	3		X	X		X		X
CAN. J. PHYSIOL. PHARMACOL.	3		X	X		X		X
CANCER (PHILADELPHIA)	3		X	X		X		X
CANCER CHEMOTHER. REP.	3		X	X		X		X
CIRC. RES.	3		X	X		X		X
CIRCULATION	3		X	X		X		X
CLIN. CHIM. ACTA	3		X	X		X		X
COMP. BIOCHEM. PHYSIOL.	3		X	X		X		X
CRYOGENICS	3			X	X		X	X
CURR. SCI.	3			X	X		X	X
CZECH. J. PHYS.	3			X	X		X	X
DIABETES	3		X	X		X		X
EXP. BRAIN RES.	3		X	X		X		X
EXP. CELL RES.	3			X	X	X		X
EXP. PARASITOL.	3		X	X		X		X
FOOD COSMET. TOXICOL.	3		X	X		X		X
GEN. COMP. ENDOCRINOL.	3		X	X		X		X
GENETICS	3			X	X	X		X
GIG. SANIT.	3			X	X	X		X
HELV. PHYS. ACTA	3			X	X		X	X
IMMUNOCHEMISTRY	3		X	X		X		X
IMMUNOLOGY	3		X	X		X		X
INDIAN J. BIOCHEM.	3		X	X		X		X
INDIAN J. CHEM.	3		X	X	X			X
INDIAN J. EXP. BIOL.	3		X	X		X		X
INT. J. CANCER	3		X	X		X		X
INVEST. UROL.	3		X	X		X		X
IZV. AKAD. NAUK SSSR, SER. FIZ.	3			X	X		X	X
J. ACOUST. SOC. AMER.	3			X		X	X	X
J. AMER. OIL CHEM. SOC.	3		X	X		X		X
J. AMFR. VET. MED. ASS.	3		X	X		X		X
J. APPL. PHYS.	3			X	X		X	X

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CURR. THER. RES., CLIN. EXP.	2			X		X		X
DERMATOLOGICA	2			X		X		X
DEUT. MED. J.	2			X		X		X
DEUT. MED. WOCHENSCHR.	2			X		X		X
DEVELOP. BIOL.	2			X		X		X
DEW (DEUT. EDELSTAHLWERKE)-TECH. BER.	2	X		X				
DIS. NERV. SYST.	2			X		X		X
DISCUSS. FARADAY SOC.	2			X		X		X
DOKL. AKAD. NAUK BELORUSS. SSR	2			X	X			X
DOKL. AKAD. NAUK UZB. SSR	2			X	X			X
EARTH PLANET. SCI. LETT.	2			X	X			X
ELECTROCHEM. TECHNOL.	2			X	X			X
ENDEAVOUR	2			X		X		X
ENDOCRINOL. JAP.	2			X		X		X
ENDOCRINOLOGY	2			X		X		X
ENDOKRINOLOGIE	2			X		X		X
ENTOMOL. EXP. APPL.	2		X	X				X
ENZYMOLOGIA	2			X		X		X
EUR. J. CANCER	2			X		X		X
EXP. MOL. PATHOL.	2			X		X		X
FARM. ZH. (KIEV)	2			X		X		X
FARMACO, ED. PRAT.	2			X		X		X
FARMACO, ED. SCI.	2			X		X		X
FARMAKOL. TOKSIKOL. (MOSCOW)	2			X		X		X
FED. PROC., FED. AMER. SOC. EXP. BIOL	2			X		X		X
FERT. STERIL.	2			X		X		X
FIZ. TVERD. TELA	2			X			X	X
FIZIOL. ZH. (KIEV)	2			X		X		X
FIZIOL. ZH. SSSR IM. I. M. SECHENOVA	2			X		X		X
FOREST PROD. J.	2		X	X				X
FORTSCHR. CHEM. ORG. NATURST.	2			X		X		X
GANN	2			X		X		X
GASTROENTEROLOGY	2			X		X		X
GEBURTSH. FRAUENHEILK.	2			X		X		X
GEOCHIM. COSMOCHIM. ACTA	2			X	X			
GEOKHIMIYA	2			X	X			X
GERIATRICS	2			X		X		X
GUT	2			X		X		X

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ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
GYNAECOLOGIA	2			X		X		X
HELV. CHIM. ACTA	2			X		X		X
HELV. MED. ACTA	2			X		X		X
HELV. PHYSIOL. PHARMACOL. ACTA	2			X		X		X
HIFUKA KIYO	2			X		X		X
HINDUSTAN ANTIBIOT. BULL.	2			X		X		X
HOPPE-SEYLER'S Z. PHYSIOL. CHEM.	2			X		X		
IGAKU TO SEIBUTSUGAKU	2			X		X		X
INDIAN J. MED. RES.	2			X		X		X
INDIAN J. PHARM.	2		X	X				X
INDIAN J. PHYSIOL. PHARMACOL.	2			X		X		X
INDIAN J. TECHNOL.	2		X	X				X
INORG. CHEM.	2			X	X			X
INORG. NUCL. CHEM. LETT.	2			X	X			X
INT. J. FERT.	2			X		X		X
INT. Z. VITAMINFORSCH.	2			X		X		X
INTERNIST	2			X		X		X
INVEST. OPHTHALMOL.	2			X		X		X
INZH.-FIZ. ZH.	2			X			X	X
ISOTOPENPRAXIS	2			X	X			X
ISR. J. CHEM.	2		X	X				X
ISR. J. TECHNOL.	2		X	X				X
IZV. AKAD. NAUK SSSR, SER. BIOL.	2			X		X		X
IZV. AKAD. NAUK SSSR, SER. KHIM.	2			X	X			X
IZV. AKAD. NAUK UZB. SSR, SER. FIZ.-MAT. NAUK	2			X	X			X
IZV. SIB. OTD. AKAD. NAUK SSSR, SER. KHIM. NAUK	2			X	X			X
IZV. VYSSH. UCHEB. ZAVED., CHERN. MET	2	X		X				X
IZV. VYSSH. UCHEB. ZAVED., FIZ.	2			X	X			X
IZV. VYSSH. UCHEB. ZAVED., TSVET. MET	2	X		X				X
J. ALLERGY	2			X		X		X
J. AMER. GERIAT. SOC.	2			X		X		X
J. ANIM. SCI.	2			X		X		X
J. APPL. PHYSIOL.	2			X		X		X
J. ASS. OFFIC. ANAL. CHEM.	2		X	X				X
J. ATMOS. SCI.	2			X			X	X
J. BACTERIOL.	2			X		X		X

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J. OPT. SOC. AMER.	5		X	X	X	X	X	X
J. SCI. INSTRUM.	5		X	X	X	X	X	X
REV. SCI. INSTRUM.	5		X	X	X	X	X	X
SCIENCE	5		X	X	X	X	X	X
ACTA CHEM. SCAND.	4		X	X	X	X		X
ACTA MET.	4	X		X	X		X	X
ARCH. DERMATOL.	4		X	X	X	X		X
BIOCHIM. BIOPHYS. ACTA	4		X	X	X	X		X
CAN. J. CHEM.	4		X	X	X		X	X
CAN. J. PHYS.	4		X	X	X		X	X
CANCER RES.	4		X	X	X	X		X
DOKL. AKAD. NAUK SSSR	4			X	X	X	X	X
DOKL. BOLG. AKAD. NAUK	4			X	X	X	X	X
FIZ. METAL. METALLOVED.	4	X		X	X		X	X
HEALTH PHYS.	4		X	X	X	X		X
INDIAN J. PURE APPL. PHYS.	4		X	X	X		X	X
INT. J. APPL. RADIAT. ISOTOP.	4		X	X	X	X		X
INT. J. RADIAT. BIOL.	4		X	X	X	X		X
J. AMER. CERAM. SOC.	4	X		X	X		X	X
J. AMER. CHEM. SOC.	4			X	X	X	X	X
J. AMER. MED. ASS.	4		X	X	X	X		X
J. CHEM. PHYS.	4			X	X	X	X	X
J. ECON. ENTOMOL.	4		X	X	X	X		X
J. GEOPHYS. RES.	4		X	X	X		X	X
J. INST. METALS	4	X		X	X		X	X
J. MOL. BIOL.	4		X	X	X	X		X
J. NUCL. MATER.	4	X		X	X		X	X
J. PHYS. CHEM.	4			X	X	X	X	X
NATURE (LONDON)	4			X	X	X	X	X
NATURWISSENSCHAFTEN	4			X	X	X	X	X
RADIAT. RES.	4		X	X	X	X		X
VIROLOGY	4		X	X	X	X		X
Z. METALLK.	4	X		X	X		X	X
ACTA BIOL. (BUDAPEST)	3		X	X		X		X
ACTA ENDOCRINOL. (COPENHAGEN)	3		X	X		X		X
ACTA MICROBIOL. POL.	3		X	X		X		X
ACTA PHARM. SUECICA	3		X	X		X		X
ACTA PHYSIOL.	3		X	X		X		X

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J. BIOCHEM. (TOKYO)	2			X		X		X
J. BIOL. CHEM.	2			X		X		X
J. CELL. PHYSIOL.	2			X		X		
J. CHEM. EDUC.	2			X		X		X
J. CHEM. SOC. A	2			X	X			X
J. CHEM. SOC. C	2			X		X		X
J. CLIN. ENDOCRINOL. METAB.	2			X		X		X
J. CLIN. PATHOL.	2			X		X		X
J. COLLOID INTERFACE SCI.	2			X		X		X
J. COMP. PATHOL.	2			X		X		X
J. DENT. RES.	2			X		X		X
J. EMBRYOL. EXP. MORPHOL.	2			X		X		X
J. EXP. BIOL.	2			X		X		X
J. EXP. BOT.	2		X	X				X
J. EXP. MED.	2			X		X		X
J. FISH. RES. BD. CAN.	2		X	X				X
J. GAS CHROMATOGR.	2		X	X				X
J. GEN. MICROBIOL.	2			X		X		X
J. IMMUNOL.	2			X		X		X
J. INDIAN INST. SCI.	2		X	X				X
J. INDIAN MED. ASS.	2			X		X		X
J. INDIAN SOC. SOIL SCI.	2		X	X				X
J. INFEC. DIS.	2			X		X		X
J. INORG. NUCL. CHEM.	2			X	X			X
J. INVEST. DERMATOL.	2			X		X		X
J. IRON STEEL INST., LONDON	2	X		X				X
J. LAB. CLIN. MED.	2			X		X		X
J. MED. CHEM.	2			X		X		X
J. METALS	2	X		X				X
J. NAT. CANCER INST.	2			X		X		X
J. NERV. MENT. DIS.	2			X		X		X
J. NEUROCHEM.	2			X		X		X
J. NEUROL., NEUROSURG. PSYCHIAT.	2			X		X		X
J. NEUROPHYSIOL.	2			X		X		X
J. ORAL THER. PHARMACOL.	2			X		X		X
J. ORG. CHEM.	2			X		X		X
J. PATHOL. BACTERIOL.	2			X		X		X
J. PHARM. BELG.	2			X		X		X

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J. PHYSIOL. (PARIS)	2			X		X		X
J. POLYM. SCI., PART B	2			X		X		X
J. RUBBER RES. INST. MALAYA	2		X	X				X
J. SCI. FOOD AGR.	2			X		X		X
J. SOIL SCI.	2		X	X				X
J. SURG. RES.	2			X		X		X
J. TROP. MED. HYG.	2			X		X		X
J. VAC. SCI. TECHNOL.	2			X	X			X
J. VITAMINOL. (KYOTO)	2			X		X		X
JAP. J. PHARMACOL.	2			X		X		X
JAP. J. PHYSIOL.	2			X		X		X
KERNENERGIE	2			X	X			X
KINET. KATAL.	2			X	X			X
KLIN. MED. (MOSCOW)	2			X		X		X
KLIN. WOCHENSCHR.	2			X		X		X
KRISTALLOGRAFIYA	2			X			X	X
LAB. INVEST.	2			X		X		X
LIFE SCI.	2			X		X		X
LIPIDS	2		X	X				X
MAGY. KEM. FOLY.	2			X	X			X
MATER. EVAL.	2	X		X				X
MATER. PROT.	2	X		X				X
MATER. RES. STAND.	2	X		X				X
MED. KLIN. (MUNICH)	2			X		X		X
MED. MONATSSCHR.	2			X		X		
MED. PHARMACOL. EXP.	2			X		X		X
MED. PROM. SSSR	2			X		X		X
MED. WELT	2			X		X		X
METAL PROGR.	2	X		X				X
MIKROCHIM. ACTA	2			X	X			X
MOL. PHYS.	2			X			X	X
MONATSBER. DEUT. AKAD. WISS. BERLIN	2			X			X	X
N. ENGL. J. MED.	2			X		X		X
N. Z. J. SCI.	2		X	X				X
NAT. CANCER INST., MONOGR.	2			X		X		
NAUNYN-SCHMIEDEBERGS ARCH. PHARMAKOL.								X
EXP. PATHOL.	2			X		X		X
NED. TIJDSCHR. GENEESK.	2			X		X		X

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J. ATHEROSCLER. RES.	3		X	X		X		X
J. ATMOS. TERR. PHYS.	3			X	X		X	X
J. CATAL.	3		X	X	X			X
J. CELL BIOL.	3		X	X		X		X
J. CHROMATOGR.	3			X	X	X		X
J. CLIN. INVEST.	3		X	X		X		X
J. COMP. PHYSIOL. PSYCHOL.	3		X	X		X		X
J. DAIRY SCI.	3			X	X	X		X
J. ELECTROCHEM. SOC.	3			X	X		X	X
J. ENDOCRINOL.	3		X	X		X		X
J. GEN. PHYSIOL.	3		X	X		X		X
J. HISTOCHEM. CYTOCHEM.	3		X	X		X		X
J. INDIAN CHEM. SOC.	3		X	X	X			X
J. INSECT PHYSIOL.	3		X	X		X		X
J. INVERTEBR. PATHOL.	3		X	X		X		X
J. LESS-COMMON METALS	3	X		X	X			X
J. LIPID RES.	3		X	X		X		X
J. MATH. PHYS. (NEW YORK)	3			X	X		X	X
J. MOL. SPECTROSC.	3		X	X			X	X
J. NUTR.	3		X	X		X		X
J. PARASITOL.	3		X	X		X		X
J. PHARM. PHARMACOL.	3		X	X		X		X
J. PHARM. SCI.	3		X	X		X		X
J. PHARMACOL. EXP. THER.	3		X	X		X		X
J. PHYS. (PARIS)	3			X	X		X	X
J. PHYS. CHEM. SOLIDS	3			X	X		X	X
J. PHYS. SOC. JAP.	3			X	X		X	X
J. PHYSIOL. (LONDON)	3		X	X		X		X
J. POLYM. SCI., PART A-1	3			X	X	X		X
J. PROTOZOOL.	3		X	X		X		X
J. QUANT. SPECTROSC. RADIAT. TRANSFER	3			X	X		X	X
J. REPROD. FERT.	3		X	X		X		X
J. THEOR. BIOL.	3		X	X		X		X
J. WATER POLLUT. CONTR. FED.	3		X	X		X		X
JAP. J. APPL. PHYS.	3			X	X		X	X
LANCET	3			X	X	X		X
MED. RADIOL.	3			X	X	X		X
METAB., CLIN. EXP.	3		X	X		X		X

SERIALS COMMON TO THE CORE LITERATURE OF TWO OR MORE OF SIX DISCIPLINES WITH OCCURRENCE OF SERIAL IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
MOL. PHARMACOL.	3		X	X		X		X
NERVENARZT	3		X	X		X		X
NUCL. INSTRUM. METHODS	3			X	X		X	X
NUCL. PHYS. A	3			X	X		X	
NUCL. PHYS. B	3			X	X		X	
NUCL. SCI. ENG.	3			X	X		X	X
NUKLEONIKA	3			X	X		X	X
OPT. SPEKTROSK.	3			X	X		X	X
PHOTOCHEM. PHOTOBIOL.	3			X	X	X		X
PHYS. FLUIDS	3			X	X		X	X
PHYS. REV.	3			X	X		X	X
PHYS. REV. LETT.	3			X	X		X	X
PHYS. STATUS SOLIDI	3			X	X		X	X
PHYSICA (UTRECHT)	3			X	X		X	X
PHYTOPATHOLOGY	3		X	X		X		X
PLANET. SPACE SCI.	3			X	X		X	X
PLANT PHYSIOL.	3		X	X		X		X
POROSH. MET.	3	X		X	X			X
PRIB. TEKH. EKSP.	3			X	X		X	X
PROC. NAT. ACAD. SCI. U. S.	3			X	X	X		X
PROC. PHYS. SOC., LONDON	3			X	X		X	X
PROC. ROY. SOC., SER. B	3		X	X		X		X
PROC. SOC. EXP. BIOL. MED.	3			X	X	X		X
PROGR. THEOR. PHYS.	3			X	X		X	X
RADIOBIOLOGIYA	3			X	X	X		X
RES, J. RETICULOENDOTHEL. SOC.	3		X	X		X		X
REV. CAN. BIOL.	3		X	X		X		X
REV. MOD. PHYS.	3			X	X		X	X
REV. ROUM. PHYS.	3			X	X		X	X
SCAND. J. CLIN. LAB. INVEST.	3		X	X		X		X
SCAND. J. HAEMATOL.	3		X	X		X		X
SOLID STATE COMMUN.	3			X	X		X	X
STEROIDS	3		X	X		X		X
STRAHLENTHERAPIE	3			X	X	X		X
STRAHLENTHERAPIE, SONDERB.	3			X	X	X		X
TALANTA	3		X	X	X			X
TEPLOFIZ. VYS. TEMP.	3			X	X		X	X
TETRAHEDRON	3		X	X		X		X

SERIALS COMMON TO THE CORE LITERATURE OF TWO OR MORE OF SIX DISCIPLINES WITH OCCURRENCE OF SERIAL IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
NEOPLASMA	2			X		X		X
NEUE HUETTE	2	X		X				X
NEW PHYTOL.	2		X	X				X
NIPPON HOSHASEN KOBUNSHI KENKYU KYOKAI NEMPO	2			X	X			
NIPPON KINZOKU GAKKAISHI	2			X	X			X
NIPPON NOGEI KAGAKU KAISHI	2		X	X				X
NUTR. DIETA	2			X		X		X
OBSTET. GYNECOL.	2			X		X		X
OPTIK (STUTTGART)	2			X			X	X
PAK. J. SCI. RES.	2		X	X				X
PANMINERVA MED.	2			X		X		X
PATHOL. BIOL.	2			X		X		X
PATHOL. MICROBIOL.	2			X		X		X
PATOL. FIZIOL. EKSP. TER.	2			X		X		X
PFLUEGERS ARCH. GESAMTE PHYSIOL. MENSCHEN TIERE	2			X		X		X
PHARM. ACTA HELV.	2			X		X		X
PHARM. PRAX.	2			X		X		
PHARM. WEEKBL.	2			X		X		X
PHARMACOL. REV.	2			X		X		X
PHARMAZIE	2			X		X		X
PHIL. MAG.	2			X			X	X
PHILIPS RES. REP.	2			X			X	X
PHYS. CHEM. GLASSES	2			X			X	X
PHYS. LETT. A	2			X	X			X
PHYS. LETT. B	2			X	X			X
PHYSIOL. BEHAV.	2		X	X				X
PHYSIOL. BOHEMOSLOV.	2			X		X		X
PHYSIOL. PLANT.	2		X	X				X
PHYSIOL. REV.	2			X		X		X
PHYSIOL. VEG.	2		X	X				X
PHYTOCHEMISTRY	2		X	X				X
PHYTON (BUENOS AIRES)	2		X	X				X
PLANT CELL PHYSIOL.	2		X	X				X
PLANT DIS. REP.	2		X	X				X
PLANTA	2		X	X				X
PLANTA MED.	2			X		X		X

SERIALS COMMON TO THE CORE LITERATURE OF TWO OR MORE OF SIX DISCIPLINES WITH OCCURRENCE OF SERIAL IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
POULTRY SCI.	2			X		X		X
PRAX. PNEUMOL.	2			X		X		
PRESSE MED.	2			X		X		X
PROBL. ENDOKRINOL. GORMONOTER.	2			X		X		X
PROC. CAMBRIDGE PHIL. SOC.	2			X			X	X
PROC. INDIAN ACAD. SCI., SECT. A	2			X	X			X
PROC. INDIAN ACAD. SCI, SECT. B	2		X	X				X
PROC. NAT. INST. SCI. INDIA, PART B	2		X	X				X
PROC. ROY. SOC. MED.	2			X		X		X
PROC. ROY. SOC., SER. A	2			X	X			X
PROC., KON. NED. AKAD. WETENSCH., SER. C	2			X		X		X
PROTOPLASMA	2			X		X		X
PSYCHOPHARMACOL. BULL.	2			X		X		
PSYCHOPHARMACOLOGIA	2			X		X		X
PURE APPL. CHEM.	2			X		X		X
RADIOCHIM. ACTA	2			X	X			X
RADIOKHIMIYA	2			X	X			X
RADIOTEKH. ELEKTRON.	2			X			X	X
REV. ESPAN. FISIOL.	2			X		X		X
REV. FR. ETUD. CLIN. BIOL.	2			X		X		X
RIC. SCI.	2			X		X		X
RUBBER RES. INST. CEYLON, QUART. J.	2		X	X				
S. AFR. J. AGR. SCI.	2		X	X				
S. MED. J.	2			X		X		X
SCAND. J. GASTROENTEROL.	2			X		X		X
SCAND. J. RESP. DIS.	2			X		X		
SCHWEIZ. MED. WOCHENSCHR.	2			X		X		X
SCI. PROC. ROY. DUBLIN SOC., SER. A	2		X	X				X
SCI. PROC. ROY. DUBLIN SOC., SER. B	2		X	X				
SCI. REP. RES. INST., TOHOKU UNIV., SER. C	2			X		X		X
SCI. REP. TOHOKU UNIV., SER. 1	2	X		X				X
SEIKAGAKU	2			X		X		X
SHENG LI HSUEH PAO	2			X		X		
SHIH YEN SHENG WU HSUEH PAO	2			X		X		
SOIL SCI. SOC. AMER., PROC.	2		X	X				X
SOLID-STATE ELECTRON.	2			X			X	X

SERIALS COMMON TO THE CORE LITERATURE OF TWO OR MORE OF SIX DISCIPLINES
WITH OCCURRENCE OF SERIAL IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
SOOBSHCH. AKAD. NAUK GRUZ. SSR	2			X	X			X
SPERIMENTALE	2			X		X		X
STAHL EISEN	2	X		X				X
STAIN TECHNOL.	2			X		X		X
STAL'	2	X		X				X
STUD. CERCET. FIZ.	2			X	X			X
SURFACE SCI.	2			X			X	X
SURG., GYNECOL. OBSTET.	2			X		X		X
TAPPI	2		X	X				X
TER. ARKH.	2			X		X		X
TEX. REP. BIOL. MED.	2			X		X		X
THEOR. CHIM. ACTA	2			X		X		X
THER. GEGENW.	2			X		X		X
THERAPIE	2			X		X		X
THROMB. DIATH. HAEMORRH.	2			X		X		X
TMSAAB	2			X			X	
TOHOKU J. EXP. MED.	2			X		X		X
TOXICOL. APPL. PHARMACOL.	2			X		X		X
TRAB. INST. CAJAL INVEST. BIOL.	2			X		X		
TRANS. BOSE RES. INST.	2		X	X				X
TRANS. N. Y. ACAD. SCI.	2			X		X		X
TRANS. ROY. SOC. EDINBURGH	2		X	X				X
TRANS. ROY. SOC. N. Z., ZOOL.	2		X	X				X
TRANS. ROY. SOC. TROP. MED. HYG.	2			X		X		X
TRANSFUSION (PHILADELPHIA)	2			X		X		X
TSITOLOGIYA	2			X		X		X
TSVET. METAL.	2	X		X				X
TUMORI	2			X		X		X
UKR. KHIM. ZH.	2			X	X			X
UNION MED. CAN.	2			X		X		X
USP. SOVREM. BIOL.	2			X		X		X
VESTN. AKAD. NAUK SSSR	2			X		X		X
VESTN. LENINGRAD. UNIV., SER. BIOL.	2			X		X		X
VESTN. MOSK. UNIV., KHIM.	2			X	X			X
VESTSI AKAD. NAVUK BELARUS. SSR, SER. BIYAL. NAVUK	2			X	X			X
VET. REC.	2			X		X		X
VITAM. HORM. (NEW YORK)	2			X		X		

SERIALS COMMON TO THE CORE LITERATURE OF TWO OR MORE OF SIX DISCIPLINES
WITH OCCURRENCE OF SERIAL IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
VOP. MED. KHIM.	2			X		X		X
VOP. ONKOL.	2			X		X		X
VOP. PITAN.	2			X		X		X
VOP. VIRUSOL.	2			X		X		X
VOX SANG.	2			X		X		X
VRACH. DELO	2			X		X		X
VYSOKOMOL. SOEDIN.	2			X	X			X
WEED RES.	2		X	X				X
WEEDS	2		X	X				X
WIEN. KLIN. WOCHENSCHR.	2			X		X		X
WIEN. MED. WOCHENSCHR.	2			X		X		X
YAKUGAKU ZASSHI	2			X		X		X
YALE J. BIOL. MED.	2			X		X		X
YAO HSUEH HSUEH PAO	2			X		X		X
YONAGO ACTA MED.	2			X		X		
Z. ANORG. ALLG. CHEM.	2			X	X			X
Z. CHEM.	2			X	X			X
Z. ERNAEHRUNGSWISS.	2			X		X		X
Z. HAUT- GESCHLECHTS-KR.	2			X		X		
Z. KINDERHEILK.	2			X		X		X
Z. KREBSFORSCH.	2			X		X		X
Z. KREISLAUFFORSCH.	2			X		X		X
Z. NATURFORSCH. A	2			X	X			X
Z. NATURFORSCH. B	2			X		X		X
Z. PFLANZENPHYSIOL.	2		X	X				X
Z. PHYS.	2			X			X	X
Z. TROPENMED. PARASITOL.	2			X		X		X
ZAVOD. LAB.	2			X	X			X
ZENTRALBL. BAKTERIOL., PARASITENK., INFEKTIONSKR. HYG., ABT. 1 ORIG.	2			X		X		X
ZGEMB2	2			X		X		
ZH. MIKROBIOL., EPIDEMIOL. IMMUNOBIOL	2			X		X		X
ZH. NEVROPATOL. PSIKHIAT. IM. S. S. KORSAKOVA	2			X		X		X
ZH. PRIKL. SPEKTROSK.	2			X	X			X
ZH. VYSSH. NERV. DEYATEL. IM. I. P. PAVLOVA	2			X		X		X

SERIALS COMMON TO THE CORE LITERATURE OF TWO OR MORE OF SIX DISCIPLINES
WITH OCCURRENCE OF SERIAL IN THE INTERLIBRARY LOAN FILE

ABBREVIATED TITLE	NUMBER OF LISTS THAT INCLUDE TITLE	MET.	BIOL.	CHEM.	NUCL. SCI.	MED.	PHYS.	LOAN
TETRAHEDRON LETT.	3			X	X	X		X
TOXICON	3		X	X		X		X
TRANS. FARADAY SOC.	3			X	X		X	X
UKR. BIOKHIM. ZH.	3			X	X	X		X
UKR. FIZ. ZH. (UKR. ED.)	3			X	X		X	X
USP. FIZ. NAUK	3			X	X		X	X
Z. ANGEW. PHYS.	3			X	X		X	X
Z. PHYS. CHEM. (FRANKFURT AM MAIN)	3			X	X		X	X
ZH. EKSP. TEOR. FIZ.	3			X	X		X	X
ZH. TEKH. FIZ.	3			X	X		X	X
ACJLAQ	2			X		X		X
ACTA BIOCHIM. POL.	2			X		X		X
ACTA BIOL. MED. GER.	2			X		X		X
ACTA BOT. NEER.	2		X	X				X
ACTA CHIM. (BUDAPEST)	2			X	X			X
ACTA DERMATO-VENEREOL.	2			X		X		X
ACTA HISTOCHEM.	2			X		X		X
ACTA MED. (BUDAPEST)	2			X		X		X
ACTA MED. SCAND.	2			X		X		X
ACTA MICROBIOL.	2			X		X		X
ACTA OPHTHALMOL.	2			X		X		X
ACTA PATHOL. MICROBIOL. SCAND.	2			X		X		X
ACTA PHARM. HUNG.	2			X		X		X
ACTA PHARMACOL. TOXICOL.	2			X		X		X
ACTA PHYS.	2			X	X			
ACTA PHYSIOL. POL.	2			X		X		X
ACTA POL. PHARM.	2			X		X		X
ACTA PSYCHIAT. SCAND.	2			X		X		X
ACTA TROP.	2			X		X		X
AGR. BIOL. CHEM.	2		X	X				X
AGRESSOLOGIE	2			X		X		X
AGRON. J.	2		X	X				X
AIAA J.	2			X	X			X
ALBRECHT VON GRAEFES ARCH. KLIN. EXP. OPHTHALMOL.	2			X		X		X
AMER. HEART J.	2			X		X		X
AMER. J. BOT.	2			X		X		X
AMER. J. CARDIOL.	2			X		X		X

APPENDIX 26

List of Serials Listed in Access for Which There Were Five or More Unfilled Interlibrary Loan Requests

Abh. Pruess. Meterorol. Inst. Berlin
Acad. Sci. USSR, Proc., Biol. Sci. Sect.
Ann. Radiol.
Arch. Elektrotech. (Berlin)
Arch. Inst. Pasteur Alger.
Azerb. Khim. Zh.
Brit. Weld. J.
Bull. Acad. Pol. Sci. Cl. Troisieme
Bull. Fan. Mem. Inst. Biol. Bot. Ser.
Byull. Mosk. Obshchest. Spyt. Prir. Otd. Biol.
Chung-Kuo Wu Li Hsueh
C. R. Acad. Sci., Paris
Dokl. Akad. Nauk. SSSR
Electrochem. Sco., Proc. Fall Meet.
Evolution
Farmakol. Toksikol. (Moscow)
Fukuoka Acta Med.
Izv. Akad. Nauk SSR, Ser. Fiz.
Izv. Tikhookean. Nauch. Issled. Inst. Ryb. Khoz. Okeanogr.
J. Amer. Ceram. Soc.
J. Appl. Chem. USSR
J. Coll. Gen. Practitioners
Jap. J. Appl. Phys.
Jap. J. Bacteriol.
J. Med. Lyon
J. Microbiol. Epidemiol. Immunobiol. (USSR)
Jogoslavenska Akad. Znanosti Umjetnosti
Korean J. Intern. Med.
Mod. Sanit. Bldg. Maint.
Navigation
Nippon Ganka Gakkai Zasshi
Pak. Cottons
Palaeontol. Novitates
Pap. Proc. Roy. Soc. Tasmania
Phillip. J. Sci.
Phys. Pam.
Polski Przegl. Radiol. Warszawa
Probl. Peredachi. Inform. Akad. Nauk SSSR
Recenti Prog. Med.
Rech. Astron. Observ. Utrecht
Sci. Rep. Tohoku Univ. Ser. 1
Scr. Bot. Bot. Zap. Leningrad. Univ.
Ter. Perm. Biol. Nauch. Issled. Inst.
Trans. Amer. Inst. Chem. Eng.
Trans. Inst. Rubber Ind.
Tr. Bot. Sad. Tiflis
Verfahrenstechnik
Z. Gesamte Hyg. Ihre Gren. Zgeb.
Zh. Mikrobiol. Epidemiol. Immunobiol.
Zh. Org. Khim.
Z. Morphol. Oekol. Tiere

Acta Chem. Scand.
Acta Crystallogr.
Acta Met.
Acta Phys. Budapest
Acta Phys. Austr.
Acta Phys. Pal.
Acta Tech. Acad. Sci. Hung.
Acustica
Advan. Phys.
AEI Ass. Elec. Ind. Eng.
Aerosp. Med.
AIChE J.
Aircraft Eng.
Akust. Zh.
Amer. Ceram. Soc., Bull.
Amer. J. Bot.
Amer. J. Phys.
Amer. J. Physiol.
Amer. J. Psychol
Amer. J. Pub. Health Nat. Health
Amer. J. Sci.
Amer. Mineral.
Amer. Natur.
Amer. Sci.
Amer. Soc. Mech. Eng., Misc. Pap.
Amer. Soc. Mech. Eng., Pap.
An. Acad. Brasil. Cienc.
Anal. Chem.
Anal. Chim. Acta
Analyst London
Anat. Rec.
Angew. Chem., Int. Ed. Engl.
Ann. Astrophys.
Ann. Geofis.
Ann. Geophys.
Ann. Math. Statist.
Ann. N. Y. Acad. Sci.
Ann. Phys. Leipzig
Ann. Phys. New York
Ann. Phys. Paris
Ann. Radioelec.
Ann. Telecommun.
Appl. Mech. Rev.
Appl. Microbiol.
Appl. Opt.
Appl. Phys. Lett.
Appl. Sci. Res. The Hague
Appl. Spectrosc.
Arch. Biochem. Biophys.

Arch. Elektrotech. Berlin
Arch. Neurol. Chicago
Arch. Sci. Geneva
Arch. Tech. Mes. Ind. Messtech.
Ark. Fys.
Ark. Kemi
Ark. Geofys.
Astron. J.
Astronaut. Acta
Astronaut. Aeronaut.
Astrophys. J.
Atti Accad. Naz. Lincei, Rend., Cl. Sci. Fis. Mat. Natur.
Aust. J. Appl. Sci.
Aust. J. Phys.
Aust. J. Sci.
Automat. Remote Contr. U.S.S.R. Engl. Transl. Sov. J.
  Avtomat. Telemekh.
Battelle Tech. Rev.
Bell Lab. Rec.
Bell Syst. Tech. J.
Ber. Bunsenges. Phys. Chem.
Biochem. J.
Biochem. Z.
Biochim. Biophys. Acta
Biometrics
Biometrika
Brit. Chem. Eng.
Brit. J. Appl. Phys.
Brit. J. Radio.
Brit. Med. J.
Bul. Inst. Politeh. Iasi
Bull. Acad. Pol. Sci., Ser. Sci. Tech.
Bull. Amer. Ass. Petrol. Geol.
Bull. Amer. Meteorol. Soc.
Bull. Chem. Soc. Jap.
Bull. Cl. Sci., Acad. Roy. Belg.
Bull. Geol. Soc. Amer.
Bull. Seismol. Soc. Amer.
Bull. Soc. Chim. Belg.
Bull. Soc. Chim. Fr.
Bull. Soc. Fr. Mineral. Cristallogr.
C. R. Acad. Sci., Paris, Ser. A&B
C. R. Hebd. Seances Acad. Sci.
Can. Chem. Process
Can. J. Chem.
Can. J. Chem. Eng.
Can. J. Phys.
Can. Met. Quart.
Can. Mining Met. Bull.

Cancer Res.
Chem. Ber.
Chem. Eng. New York
Chem. Eng. News
Chem. Eng. Sci.
Chem. Eng. Progr.
Chem. Ind. London
Chem. Process. Eng.
Chem. Rev.
Chem.-Ing.-Tech.
Chim. Ind., Genie Chim.
Clin. Chim. Acta
Collect. Czech. Chem. Commun.
Combust. Flame
Commun. ACM
Contemp. Phys.
Contr. Eng.
Corrosion
Cryogenics
Curr. Sci.
Czech. J. Phys.
Discuss. Faraday Soc.
Diss. Abstr.
Dokl. Akad. Nauk SSSR
Electrochim. Acta
Electroencephalogr. Clin. Neurophysiol.
Electron. Des.
Electronics
Endeavour
Endocrinology
Energ. Nucl. Milan
Eng. Mater. Des.
Eng. Mining J.
Engineer (London)
Engineering (London)
Experientia
Food Techno. Chicago
Gazz. Chim. Ital
Geophys. J. Roy. Astron. Soc.
Geophysics
Helv. Chim. Acta
Helv. Phys. Acta
IBM J. Res. Develop.
Icarus
IEEE Inst. Elec. Electron. Eng. Trans. Power App. Syst.
IEEE J. Quantum Electron.
IEEE Spectrum
IEEE Trans. Antennas Propagation
IEEE Trans. Automat. Contr.

IEEE Trans. Commun. Technol.
IEEE Trans. Electron. Devices
IEEE Trans. Electron. Comput.
IEEE Trans. Inform. Theory
IEEE Trans. Instrum. Meas.
IEEE Trans. Nucl. Sci.
Ind. Eng. Chem.
Indian J. Chem.
Indian J. Phys.
Indian J. Pure Appl. Phys.
Indian J. Technol.
Instrum. Contr. Syst.
Instrum. Exp. Tech. USSR Engl. Transl. Prib. Tekh. Eksp.
Instrum. Pract.
Instrumentation
Int. J. Appl. Radiat. Isotopes
Int. J. Contr.
Int. J. Electron.
Int. J. Eng. Sci.
Int. J. Heat Mass Transfer
Int. J. Mech. Sci.
Int. Sci. Technol.
ISA Trans.
Israel J. Technol.
J. Acoust. Soc. Amer.
J. Air Pollut. Contr. Ass.
J. Amer. Ceram. Soc.
J. Amer. Chem. Soc.
J. Amer. Med. Ass.
J. Amer. Oil Chem. Soc.
J. Amer. Water Works Ass.
J. Appl. Chem. London
J. Appl. Mech.
J. Appl. Meteorol.
J. Appl. Polym. Sci.
J. Appl. Phys.
J. Appl. Physiol.
J. Ass. Comput. Mach.
J. Atmos. Sci.
J. Atmos. Terr. Phys.
J. Bacteriol.
J. Basic Eng.
J. Biol. Chem.
J. Chem. Educ.
J. Chem. Eng. Data
J. Chem. Phys.
J. Chem. Soc. London
J. Chromatogr.
J. Clin. Invest.

J. Colloid Sci.
J. Comp. Physiol. Psychol.
J. Dairy Sci.
J. Electrochem. Soc.
J. Eng. Ind.
J. Exp. Zool.
J. Fluid Mech.
J. Franklin Inst.
J. Gen. Microbiol.
J. Gen. Physiol.
J. Geol.
J. Geomagn. Geoelec. Kyoto
J. Geophys. Res.
J. Heat Transfer
J. Immunol.
J. Indian Inst. Sci.
J. Infec. Dis.
J. Inorg. Nucl. Chem.
J. Inst. Fuel
J. Inst. Elec. Eng.
J. Inst. Metals
J. Iron Steel Inst. London
J. Le-s-Common Metals
J. Mar. Res. Sears Found. Mar. Res.
J. Math. Mech.
J. Math. Phys.
J. Math. Phys. New York
J. Mec.
J. Mech. Phys. Solids
J. Metals
J. Mol. Spectrosc.
J. Neurophysiol.
J. Nucl. Energy, Part C, Plasma Phys.-Accel.-Thermonucl. Res.
J. Nucl. Energy, Parts A/B
J. Nucl. Mater.
J. Nutr.
J. Opt. Soc. Amer.
J. Org. Chem.
J. Petrol. Technol.
J. Pharmacol. Exp. Ther.
J. Phys. Chem.
J. Phys. Chem. Solids
J. Phys. Soc. Jap.
J. Physiol. London
J. Polym. Sci., Part C
J. Prakt. Chem.
J. Proc. Roy. Soc. N. S. W.
J. Res. Nat. Bur. Stand.
J. Res. Nat. Bur. Stand., Sect. A

J. Res. Nat. Bur. Stand., Sect. B.
J. Res. Nat. Bur. Stand., Sect. C.
J. Roy. Aeronaut. Soc.
J. Sci. Ind. Res.
J. Sci. Instrum.
J. Soc. Ind. Appl. Math.
J. Soil Sci.
J. Solar Energy Sci. Eng.
J. Spacecr. Rockets.
Justus Leibigs Ann. Chem.
Kgl. Dan. Vidensk. Selsk., Mat.-Fys. Medd.
Kogyo Kagaku Zasshi
Kristallografiya
Lab. Pract.
Lancet
Life Sci.
Limnol. Oceanogr.
Lubric. Eng.
Mach. Des.
Makromol. Chem.
Mater. Eval.
Mater. Res. Stand.
Mech. Eng.
Mem. Fac. Eng. Kyoto Univ.
Metal Progr.
Metallurgia
Mining Eng. N. Y.
Mol. Phys.
Mon. Notic. Roy. Astron. Soc.
Monatsber. Deut. Akad. Wiss. Berlin
N. Engl. J. Med.
N. Z. J. Sci.
Nature
Naturwissenschaften
Neurology
New Sci.
Nucl. Eng.
Nucl. Fusion
Nucl. Instrum. Methods
Nucl. Phys. A
Nucl. Phys. B
Nucl. Sci. Eng.
Nucleonics
Nuovo Cimento
Observatory
Ohio J. Sci.
Oil Gas J.
Oper. Res.

Opt. Spectrosc. USSR
Optik Stuttgart
Pak. J. Sci. Ind. Res.
Phil. Mag.
Phil. Trans. Roy. Soc. London, Ser. A
Philips Res. Rep.
Philips Tech. Rev.
Phys. Chem. Glasses
Phys. Fluids
Phys. Lett.
Phys. Rev.
Phys. Rev. Lett.
Phys. Status Solidi
Phys. Today
Physica
Planet. Space Sci.
Plant Physiol.
Poultry Sci.
Power
Prikl. Mat. Mekh.
Proc. Amer. Soc. Civil Eng.
Proc. Cambridge Phil. Soc.
Proc. IEEE
Proc. Indian Acad. Sci., Sect. A
Proc. Inst. Mech. Eng.
Proc. IRE
Proc. Jap. Acad.
Proc. Nat. Acad. Sci. U. S.
Proc. Nat. Acad. Sci., India, Sect. A.
Proc. Nat. Acad. Sci., India, Sect. B.
Proc. Okla. Acad. Sci.
Proc. Phys. Soc.
Proc. Roy. Soc. Edinburgh, Sect. A
Proc. Roy. Soc., Ser. A
Proc. Soc. Exp. Biol. Med.
Proc., Kon. Ned. Akad. Wetensch., Ser. B
Prod. Eng.
Progr. Theor. Phys.
Quart. Appl. Math.
Quart. J. Mech. Appl. Math.
Quart. J. Roy. Meteorol. Soc.
Radiat. Res.
Radio Sci.
Radiology
Radiotekh. Elektron.
RCA Rev.
Rech. Trav. Chim. Pays-Bas
Rev. Cienc. Apl.
Rev. Geophys.

Rev. Mod. Phys.
Rev. Sci. Instrum.
Sci. Amer.
Sci. Pap. Coll. Gen. Educ., Univ. Tokyo
Sci. Pap. Inst. Phys. Chem. Res.
Sci. Progr. London
Sci. Sinica
Science
Siam Soc. Ind. Appl. Math. Rev.
Siam Soc. Ind. Appl. Math. J. Appl. Math.
Soil Sci.
Soil Sci. Soc. Amer., Proc.
Solar Energy
Solid State Commun.
Solid-State Electron.
Sov. Phys.-JETP
Sov. Phys.-Tech. Phys.
Sov. Phys.-Acoust.
Sov. Phys.-Crystallogr.
Sov. Phys-Solid State
Space Aeronaut.
Space Sci. Rev.
Spectrochim. Acta
Stain Technol.
Surface Sci.
Tappi
Tech. Rep. Eng. Res. Inst., Kyoto Univ.
Tellus
Tetrahedron Lett.
Text. Res. J.
Trans. Amer. Geophys. Union
Trans. Amer. Inst. Elec. Eng.
Trans. Amer. Soc. Mech. Eng.
Trans. Faraday Soc.
Trans. Jap. Inst. Metals
Trans. Met. Soc. AIME (Amer. Inst. Mining, Met., Petrol. Eng.)
Trans. N. Y. Acad. Sci.
Ultrasonics
Vacuum
VDI Ver. Deut. Ing. Z.
Vide
Virology
Weld. J. N. Y.
Wu Li Hsueh Pao
Yakugaku Zasshi
Z. Angew Math. Phys.
Z. Angew. Phys.
A. Anorg. Allg. Chem.
Z. Astrophys

Z. Instrumentenk.
Z. Metallk.
Z. Naturforsch. A
Z. Phys.
Z. Phys. Chem. Frankfurt am Main
Zh. Fiz. Khim.
Zh. Tekh. Fiz.

APPENDIX 28

An analysis of 3363 U. S. Organizations Responsible for 68,634 Interlibrary Loans Showing Their Distribution by USOE Region and State and by Type of Organization

Borrowing Institutions

One of the elements of data recorded in the Interlibrary Loan File for each of the 70,686 sample requests was a code for the organization that generated the request. This code linked each record in that file to a manual Organization File. Each entry in the Organization File contained the name, address, and Interlibrary Loan File identification code for a specific borrowing organization as well as its U. S. Department of Commerce Standard Industrial Code. Entries for academic institutions also included a notation of the number of volumes in their libraries.

Information on the number of requests that each of the U. S. organizations generated was obtained from the Interlibrary Loan File and posted on the cards in the Organization File.

A series of analyses performed on the supplemented Organization File provided the information for the tables that follow.

Geographic Distribution of U. S. Borrowing Institutions

Table I contains data on the number of borrowing institutions located on each of the nine U. S. Office of Education Regions and by state within each region. It also presents the number of requests generated in each region and each state.

Table I

Distribution and Number of Requests of U. S. Borrowing Institutions By USOE Region and State

Geographic Location of Borrower	Organizations		Requests	
	Number	Percent	Number	Percent
TOTAL	3,363	100.0	68,634	100.0
REGION 1				
Connecticut	109	3.2	1,997	2.9
Maine	17	.5	224	.3
Massachusetts	314	9.4	10,072	14.6
New Hampshire	15	.5	648	.9
Rhode Island	18	.5	141	.2
Vermont	12	.4	61	.1
TOTAL	485	14.5	13,143	19.2

Table I (continued)

Geographic Location of Borrower	Organizations		Requests	
	Number	Percent	Number	Percent
REGION 2				
Delaware	9	.3	326	.5
New Jersey	238	7.1	4,001	5.8
New York	569	16.9	6,607	9.6
Pennsylvania	142	4.2	1,295	1.9
TOTAL	958	28.5	12,229	17.8
REGION 3				
District of Columbia	34	1.0	309	.4
Kentucky	17	.5	80	.1
Maryland	67	2.0	1,294	1.9
North Carolina	45	1.3	443	.7
Virginia	41	1.2	512	.7
West Virginia	9	.3	110	.2
Puerto Rico	3	.1	32	.1
TOTAL	216	6.4	2,780	4.1
REGION 4				
Alabama	21	.6	172	.3
Florida	90	2.6	2,602	3.8
Georgia	22	.7	139	.2
Mississippi	11	.3	180	.3
South Carolina	15	.5	99	.1
Tennessee	36	1.1	712	1.0
TOTAL	195	5.8	3,904	5.7
REGION 5				
Illinois	215	6.3	3,182	4.6
Indiana	34	1.0	608	.9
Michigan	49	1.5	753	1.1
Ohio	121	3.6	1,834	2.7
Wisconsin	39	1.2	605	.9
TOTAL	458	13.6	6,982	10.2

Table I (continued)

Geographic Location of Borrower	Organizations		Requests	
	Number	Percent	Number	Percent
REGION 6				
Iowa	16	.5	279	.4
Kansas	24	.7	533	.8
Minnesota	80	2.4	3,352	4.9
Missouri	104	3.0	2,304	3.3
Nebraska	10	.3	77	.1
North Dakota	10	.3	307	.4
South Dakota	6	.2	175	.3
TOTAL	250	7.4	7,027	10.2
REGION 7				
Arkansas	8	.2	62	.1
Louisiana	25	.7	248	.4
New Mexico	16	.5	205	.3
Oklahoma	23	.7	303	.5
Texas	187	5.6	4,444	6.5
TOTAL	259	7.7	5,262	7.7
REGION 8				
Colorado	84	2.5	4,066	5.9
Idaho	9	.3	195	.3
Montana	8	.2	244	.4
Utah	21	.6	1,400	2.1
Wyoming	7	.2	177	.3
TOTAL	129	3.8	6,082	9.0
REGION 9				
Alaska	7	.2	189	.3
Arizona	15	.5	234	.3
California	285	8.4	7,856	11.5
Hawaii	2	.1	22	.0
Nevada	7	.2	79	.1
Oregon	28	.8	577	.8
Washington	69	2.1	2,166	3.2
TOTAL	413	12.3	11,123	16.2

To facilitate identification of differences in the number of borrowing institutions among states, the data in Table I have been rearranged for the succeeding table. Table II shows in ranked order the number of borrowing institutions, the states in which the institutions are located and the number of requests generated in each state.

Table II

Location By State of the Borrowing Institutions

State	USOE Region	Institutions		Requests	
		Number	Percent	Number	Percent
TOTAL	--	3,363	100.0	68,634	100.0
New York	2	569	16.9	6,607	9.6
Massachusetts	1	314	9.4	10,072	14.6
California	9	285	8.4	7,856	11.5
New Jersey	2	258	7.1	4,001	5.8
Illinois	5	215	6.3	3,182	4.6
Texas	7	187	5.6	4,444	6.5
Pennsylvania	2	142	4.2	1,295	1.9
Ohio	5	121	3.6	1,834	2.7
Connecticut	1	109	3.2	1,997	2.9
Missouri	6	104	3.0	2,304	3.3
Florida	4	90	2.6	2,602	3.8
Colorado	8	84	2.5	4,066	5.9
Minnesota	6	80	2.4	3,352	4.9
Washington	9	69	2.1	2,166	3.2
Maryland	3	67	2.0	1,294	1.9
Michigan	5	49	1.5	753	1.1
North Carolina	3	45	1.3	443	.7
Virginia	3	41	1.2	512	.7
Wisconsin	5	39	1.2	605	.9
Tennessee	4	36	1.1	712	1.0
District of Columbia	3	34	1.0	309	.4
Indiana	5	34	1.0	608	.9
Oregon	9	28	.8	517	.8
Louisiana	7	25	.7	248	.4
Kansas	6	24	.7	533	.8
Oklahoma	7	23	.7	303	.5
Georgia	4	22	.7	139	.2
Utah	8	21	.6	1,400	2.1

Table II (continued)

State	USOE Region	Institutions		Requests	
		Number	Percent	Number	Percent
Alabama	4	21	.6	172	.3
Rhode Island	1	18	.5	141	.2
Maine	1	17	.5	224	.3
Kentucky	3	17	.5	80	.1
New Mexico	7	16	.5	205	.3
Iowa	6	16	.5	279	.4
New Hampshire	1	15	.5	648	.9
South Carolina	4	15	.5	99	.1
Arizona	9	15	.5	234	.3
Vermont	1	12	.4	61	.1
Mississippi	4	11	.3	180	.3
Nebraska	6	10	.3	77	.1
North Dakota	6	10	.3	307	.4
West Virginia	3	9	.3	110	.2
Delaware	2	9	.3	326	.5
Idaho	8	9	.3	195	.3
Montana	8	8	.2	244	.4
Arkansas	7	8	.2	62	.1
Alaska	9	7	.2	189	.3
Nevada	9	7	.2	79	.1
Wyoming	8	7	.2	177	.3
South Dakota	6	6	.2	175	.3
Puerto Rico	3	3	.1	32	.1
Hawaii	9	2	.1	79	.1

Borrowing Institutions by Type of Organization

An analysis of the U. S. borrowing institutions by type of organization is shown in Table III. These institutions are classified according to the U. S. Department of Commerce Standard Industrial Code. The data given includes organizational classification, the number of borrowing organizations in each classification, and the number of requests generated by the organizations in each class.

Table III

U. S. Borrowing Institutions by Type of Organization

Type of Organization	Organizations		Requests	
	Number	Percent	Number	Percent
TOTAL	3,363	100.0	68,634	100.0
Academic Institutions	576	17.1	21,692	31.61
Agricultural Production	2	.1	3	*
Apparel and Accessory Stores	1	*	1	*
Atomic Energy Manufacturers	11	.3	438	.64
Automotive Dealers and Gasoline Service Stations	1	*	13	.02
Banking	4	.1	6	.01
Bituminous Coal and Lignite Mining	5	.2	48	.07
Building Construction-General Contractors	6	.2	48	.07
Building Materials, Hardware and Farm Equipment Dealers	1	*	2	*
Chemicals and Allied Products	404	12.0	8,714	12.70
Communications	5	.2	75	.11
Construction other than Building-General Contractors	10	.3	404	.59
Crude Petroleum and Natural Gas	23	.7	178	.26
Educational Services	3	.1	20	.03
Electric, Gas and Sanitary Services	22	.7	123	.18
Electrical Machinery, Equipment and Supplies	286	8.5	5,652	8.24
Fabricated Metal Products, Except ordance, Machinery, Transportation Equipment	31	.9	384	.56

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* Less than .05 percent.

Table III (continued)

Type of Organization	Organizations		Requests	
	Number	Percent	Number	Percent
Food and Kindred Products	68	2.0	603	.88
Furniture and Fixtures	3	.1	34	.05
Government Organizations	276	8.2	4,602	6.71
Holding and Investment Companies	4	.1	27	.04
Independent Libraries	4	.1	54	.08
Individual Borrowers	**	**	1,042	1.52
Insurance Carriers	8	.2	13	.02
Leather and Leather Products	2	.1	2	*
Legal Services	36	1.1	185	.27
Lumber and Wood Products, Except Furniture	7	.2	89	.13
Machinery, Except Electrical	116	3.5	1,920	2.80
Medical and Other Health Services, Hospitals and Clinics	252	7.5	3,849	5.61
Metal Mining	28	.8	308	.45
Mining and Quarring of Non-Metalic Minerals, Except Fuel	6	.2	41	.06
Miscellaneous Manufacturing Industries	8	.2	20	.03
Miscellaneous Retail Stores	1	*	2	*
Miscellaneous Services	71	2.1	1,213	1.77
Motor Freight Transportation and Warehousing	2	.1	6	.01
Museums, Art Galleries, Botanical and Zoological Gardens	7	.2	20	.03
Non-profit Membership Organizations	31	.9	240	.35
Ordance and Accessories	7	.2	240	.35

** Not Applicable.

Table III (continued)

Type of Organization	Organizations		Requests	
	Number	Percent	Number	Percent
Paper and Allied Products	25	.7	569	.83
Personal Services	1	*	6	.01
Petroleum Refining and Related Industries	52	1.6	1,763	2.57
Philanthropic Organizations	2	.1	6	.01
Pipe Line Transportation	11	.3	247	.36
Primary Metal Industries	61	1.8	576	.84
Printing and Publishing	40	1.2	233	.34
Professional, Scientific, and Controlling Instruments, Photographic and Optical Goods, Watches and Clocks	90	2.7	2,613	3.81
Public Libraries	90	2.7	329	.48
Railroad Transportation	2	.1	48	.07
Research Organizations	147	4.4	3,540	5.16
Retail Trade, General Merchandise	1	*	3	*
Rubber and Miscellaneous Plastic Products	23	.7	157	.23
Security and Commodity Brokers, Dealers and Exchanges	1	*	6	.01
Stone, Clay, Glass and Concrete Products	35	1.0	1,063	1.55
Textile Mill Products	19	.6	130	.19
Tobacco Manufacturers	4	.1	34	.05
Transportation by Air	4	.1	13	.02
Transportation Equipment	91	2.7	2,449	3.57
Unclassified Organizations	282	8.4	1,879	2.74
Water Transportation	1	*	13	.02
Wholesale Trade	53	1.6	645	.94

Academic Institutions as Borrowers

Since academic institutions accounted for the largest single identifiable segment of borrowers, these records were analyzed to determine the types of academic institutions and to learn whether any correlation existed between the numbers in each category and the reported sizes, in volumes, of their libraries' collections.

The total 576 academic institutional borrowers were classified as (a) university, (b) colleges, (c) schools of health sciences, medicine, dentistry, and nursing, and (d) technical schools. Those that could not be included in the above categories, e.g., junior colleges, trade schools, etc., were designated as "other." Table IV shows the distribution of the academic borrowing institutions.

Table IV

Distribution of U. S. Academic Borrowers by Type of Teaching Institution

Type of	Institutions		Requests	
	Number	Percent	Number	Percent
TOTAL	576	100.0	21,692	100.0
University	209	36.2	17,564	81.0
College	231	40.1	2,104	9.7
Health Sciences	72	12.5	911	4.2
Technical Schools	21	3.7	911	4.2
Other	43	7.5	202	.9

These data were further analyzed to determine the number of academic institutions by type and by size of library collection and the number of requests generated by each subgroup. The results of this analysis are presented in Table V.

A final analysis was made on the academic institutional borrowers to determine whether meaningful correlations existed between the size of the academic institutions' libraries and the number of requests generated by these institutions. Table VI summarizes data from Table V and presents by size of academic library, the number of these institutions and the number of requests each group generated.

Table V

Academic Institution Borrowers by Type and Number of Volumes in Their Libraries (in Thousands)

Type of Institution and Size of Library	Organizations		Requests	
	Number	Percent	Number	Percent
TOTAL	576	100.0	21,692	100.0
University				
Under 20	---	---	---	---
20-49	4	.7	109	.5
50-99	19	3.3	889	4.1
100-499	106	18.4	5,963	27.5
500-999	47	8.2	3,794	17.5
1000 and over	33	5.7	6,809	31.4
Undetermined	---	---	---	---
TOTAL	209	36.2	17,564	81.0
College				
Under 20	5	.9	22	.1
20-49	36	6.3	173	.8
50-99	97	16.8	737	3.4
100-499	91	15.8	1,150	5.3
500-999	2	.4	22	.1
1000 and over	---	---	---	---
Undetermined	---	---	---	---
TOTAL	231	40.1	2,104	9.7
Health Sciences				
Under 20	12	2.1	43	.2
20-49	13	2.3	130	.6
50-99	29	4.9	521	2.4
100-499	9	1.6	130	.6
500-999	---	---	---	---
1000 and over	---	---	---	---
Undetermined	9	1.6	87	.4
TOTAL	72	12.5	911	4.2

Table V (continued)

Type of Institution and Size of Library	Organizations		Requests	
	Number	Percent	Number	Percent
Technical				
Under 20	1	.2	22	.1
20-49	6	1.0	108	.5
50-99	6	1.0	87	.4
100-499	5	.9	238	1.1
500-999	2	.4	413	1.9
1000 and over	1	.2	43	.2
Undetermined	---	---	---	---
TOTAL	21	3.7	911	4.2
Other				
Under 20	17	3.0	65	.3
20-49	16	2.8	43	.2
50-99	1	.2	1	*
100-499	1	.2	6	*
500-999	---	---	---	---
1000 and over	---	---	---	---
Undetermined	8	1.4	87	.4
TOTAL	43	7.5	202	.9

Table VI

Distribution of Academic Institutions By Size of Library (in Thousands of Volumes)

Size of Library	Institutions		Requests	
	Number	Percent	Number	Percent
TOTAL	576	100.0	21,692	100.0
Under 20	35	6.1	152	.7
20-49	75	13.0	563	2.6
40-99	152	26.4	2,235	10.3
100-499	212	36.8	7,487	34.5
500-999	51	8.9	4,229	19.5
1000 and over	34	5.9	6,852	31.6
Undetermined	17	3.0	174	.8